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Arithmetic analysis based on round logarithm for reformulation of calculus in [0,1]

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Abstract: Proposed reformulation of calculus: change the single variable of the calculus element, the limit is a combination of multivariable groups, and the center zero, change the calculus symbol to a power function, and establish a "characteristic mode" (average value of positive, middle, and inverse power functions) based on the principle of relativity). Proved the relative symmetry of the "probability-topology-central zero point" reciprocity and the "three unit (0, 1/2, 1) gauge invariance" for the integration of low-dimensional and high-dimensional, serial and parallel, convergence and diffusion, Continuous and discrete, uniform and non-uniform, symmetric and asymmetric, etc. The reformulation are total integrated, and arithmetic analysis is performed in the closed {0 to 1}. Example: One to 6 powers calculus equations of the complete solution are demonstrated and the discussion of six related physics experiments are listed.
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Key words: Calculus equation; group combination; characteristic mode; circle logarithm; power function (time series)

1， Introduction

As early as in China, Chinese mathematics represented by "Nine Chapters of Mathematical Scriptures", Wang Wensu's "Arithmetic Mirror", Zhu Shijie's "Siyuan Yujian", and Cheng Dawei's "Algorithm Sect", Chinese mathematics continued to dominate the world until the 16th century. Position, and is far ahead in many fields. Among them, the study of unary higher-order equations and the concept of the derivative of calculus promoted the shipbuilding industry in the Ming Dynasty. For example, the bowing of the chord of Zheng He's voyages to the west was realized by the use of ancient calculus derivatives and iterative methods.

In the 16th century, the Western missionaries of the Qing Dynasty held the power of censorship and carried out a cruel movement to destroy the "Han culture" of the Ming Dynasty, destroying, deleting and modifying a large number of mathematics books, and the development of Chinese mathematics was suspended.

Since the establishment of calculus by Newton-Leibniz in the 1660s, calculus equations (including generators of unary N-order and triplet, zero-order, first-order, second-order, and higher-order calculus equations) have been the center of mathematical research. Is widely used in various scientific and engineering fields. However, mathematicians continue to find defects in calculus and reform, and try to explore or reform calculus. So far, they have not stopped or made substantial progress. They have become a hot topic in mathematics of the century.

One-variable linear equations and one-variable quadratic equations were proposed in China's "Nine Chapters of Mathematics" more than 2,000 years ago. As for the cubic equation in one variable and the quaternary equation in one variable, Veda found it through induction in the 16th century. People expect that the next challenge should be the fifth degree equation in one variable. In 1824, the Abel-Rafinitz theorem stated that there is no algebraic solution.

In 1831, Galois proposed the "Set Group Theory", which was later developed by mathematicians in logical algebra, or the discrete calculation of logical algebra, to overcome the problem of quintic equations in one variable. In 1843, the French mathematician Joseph Liuville announced that this calculation was not a true fifth-order equation of one yuan. In the next 400 years, discrete high-order calculus equations were solved by group theory discrete calculations, and they have been widely used in computers.

Mathematicians continue to work hard to explore entangled high-order calculus equations, trying to establish the ability to deal with general quintic equations and high-order calculus equations. The solution method requires: the use of mathematical "arithmetization", that is, the addition of arithmetic There are six main ways to solve the problem by subtraction, multiplication, division, and power extraction. The essence is to explore the arithmetic of mathematical analysis [1] 3-p187. In other words, it is required to express the roots of any calculus equation and its coefficients uniformly. No satisfactory progress has been made so far.

Newton-Leibniz (Newton-Leibniz) created the calculus element single variable "infinitesimal (dy/dx) ratio" concept; in the 1820s Cauchy established the form of calculus in a more rigorous way, calculus is called It is a "logical operation" or a "probabilistic operation" capable of processing first-order calculus equations, which is applied to quantum computers as the principle of computer algorithms.

Mathematicians have discovered that the second-order (or binary second-order) calculus equation of non-uniform multi-element multiplication has important physical significance. It can be connected with algebra-geometry, called topological equation. The second-order calculus equation is not only a reliable mathematical basis for calculus, but also an important topic for exploring and making topological quantum computer algorithms. So far, there has been no breakthrough progress.

In 1872, Felix Klein's Erlangen Program demonstrated the role of group symmetry in geometry. The mathematics community further discovered the combination of algebra, geometry and arithmetic, matrix, group, and cluster, which were widely used in At work, they may have the same change rules. I think: "the same rules of change" or the "rules" of the natural world, turning to the fundamental problem of "mathematics foundation", and various functional concepts represented by formalism, logicism, intuitionism, and set theory have appeared respectively. There has been a dispute between the four major schools of mathematics. Recognizing the infirmity of the foundation of mathematics, how to achieve the unity of mathematics?

In 1902, Lebesgue (Lanbesgue, Henri) proposed the "Lebesgue measure" to start a new revolution in calculus, introducing the concept of "group set", and changing the variables of Riemann integral into tiny subregions to analyze the group set (in The logarithm of the circle is called the characteristic module), "become a person who has no derivative function" [1] 3-p210 calculus calculation returns to the probability of length and area.

The greatest mathematical achievement of set theory is: the solution of calculus equations to solve the symmetry of discrete group combination, and it is used to deal with the entangled "symmetric asymmetry, uniform inhomogeneity, continuous and discrete", as well as real variable functions and complex variables. Functions, functional analysis, various other functions, including unsupervised learning of artificial intelligence neural networks. To solve problems of arbitrary high-order calculus equations, etc., at present, apart from "error approximation analysis", there is no in-depth or continued to find a good algorithm. Shows the weak terms of the current mathematical foundation and calculus equations.

In 1967, Langlands put forward a series of conjectures, hoping to have a simple, irrelevant mathematical model formula, integrating arithmetic-geometry-algebra-group theory and various algorithms into one, unified in a closed The arithmetic analysis in the [0,1] area, called the "Langlands Program", has become a hot topic for research institutions in some countries.

At the beginning of the 21st century, the author formally proposed a reformed calculus: reforming the univariate "infinitesimal (dy/dx) and limit" of traditional calculus into a "group combination $\{X_0/\mathbf{D}_0\}$ and central zero" that expands infinitely with multiple variables. Establish the relative symmetrical reciprocity of the "probability-topology-center zero point" of the circle logarithm and the "three unit (1) gauge invariance", and transform the traditional calculus equation into the circle logarithm of characteristic mode and irrelevant mathematical model, Adapt to zero-error integer expansion.

In this way, the new calculus concept integrates functions such as geometry-algebra-number theory-group theory-topology-probability-central zero and the balance, conversion, and extreme values are unified, and "real infinity and potential infinity" are integrated into one; Integrate uniform and non-uniform, symmetric and asymmetric, low-dimensional and high-dimensional, serial and parallel, convergence and diffusion, continuous and discrete, random and regular, etc., and perform arithmetic in a closed {0 to 1} interval analysis. Solved a series of century-old mathematical problems, and explained the application principles of "zero-order, first-order, second-order, and third-order" calculus equations corresponding to physical velocity, acceleration, momentum, and kinetic energy. Example: 6th order/7th order for one yuan /11 times and by-laws, the complete solution of the calculus equation of the second order/3 order/4 order/5th order; try to discuss the relationship between some physical experiment results and calculus-circle logarithm mathematical model; explore the establishment of calculus- The logarithm equation of the circle and the algorithm of the topological quantum computer.

2. Euler product formula and the main theorem of circle logarithm

2.1. Euler product formula and circle logarithm

In 1732 Euler pointed out that the expression of the solution of an arbitrary n-degree equation may be in this form [2] p101 in his thesis "On Equations of Any Degree". Called Euler product formula or Euler root formula.

(2.1.1) $({}^{S}\sqrt{\alpha})^{S}= A({}^{n}\sqrt{\alpha})^{0}+B({}^{n}\sqrt{\alpha})^{1}+C({}^{n}\sqrt{\alpha})^{2}+D({}^{n}\sqrt{\alpha})^{3}+\ldots+P({}^{n}\sqrt{\alpha})^{p}+\ldots;$

In the formula: α is the solution of some (n-1) degree "auxiliary" equation. A, B, C... etc. are some expressions of equation coefficients. The root method of expressing polynomial and calculus equations must be closely related to polynomial coefficients.

Here, define (S√α)S as the group combination, which represents the non-repetitive combination coefficient of the elements, and the average value is called the characteristic mode, which represents the unknown element (x)K(S)/t and the known element, (D)K(S)/t constitutes a balanced calculus equation {x±(KS√D)}K(S±N)/t. Through the one-to-one correspondence of the principle of relativity, it is converted into the logarithm of the infinite program characteristic mode and the irrelevant mathematical model, and the shared power function K(Z±S)/t. K(Z±S)/t reflects the area and properties of any finite element in the infinite element. The function properties are positive (K=+1), medium (K=±1, ±0), and inverse (K=-1).) Compose two types of discrete and entangled calculus equations and a dynamic system controlled by time series.

Definition 2.1.1 Root element of Euler product formula

(2.1.2) $({}^{S}\sqrt{\alpha})^{S}=(x)^{K(S)/t}=\sum_{(i=S)}\prod_{(i=p)}({}^{KS}\sqrt{(x_1 x_2\ldots x_p)})^{K(S)/t}\in\{X\}^{K(S\pm N)/t};$

(2.1.3) $({}^{S}\sqrt{\alpha})^{S}=(\mathbf{D})^{K(S)/t}=\sum_{(i=S)}\prod_{(i=p)}({}^{KS}\sqrt{(D_1D_2\ldots D_p)})^{K(S)/t}\in\{D\}^{K(S\pm N)/t};$

Definition 2.1.2 Polynomial coefficients and group combination coefficients

The coefficients ABC...P of the Euler product formula are called polynomial coefficients, which include the combination coefficient and the arithmetic average of (S) elements.

The first term is called the 0 term, and the relationship between the initial polynomial coefficients and the combination form.

$\mathbf{A}=\prod_{(q=0\text{ 或 }S)}(1/S_{(S\pm N)})^{-1}({}^{S}\sqrt{\alpha})^{K(S\pm N-0)}=(1/C_{(S\pm N\pm q)})^{+1}D_0^{K(S\pm N+0)};$

$\mathbf{B}=\sum_{(S=q)}(1/S_{(S\pm N)})^{-1}\prod_{(q=1)}({}^{S}\sqrt{\alpha})^{K(S\pm N-1)}=(1/C_{(S\pm N\pm 1)})^{+1D0K(S\pm N+1)};$

$\mathbf{C}=\sum_{(S=q)}(1/C_{(S\pm N-2)})^{-1}\prod_{(q=2)}({}^{S}\sqrt{\alpha})^{K(S\pm N-2)}=(1/C_{(S\pm N+2)})D_0^{K(S\pm N+2)};$

$\mathbf{P}=\sum_{(S=q)}(1/C_{(S\pm N-p)})^{-1}\prod_{(q=P)}({}^{S}\sqrt{\alpha})^{K(S\pm N-P)}=(1/C_{(S\pm N+p)})D_0^{K(S\pm N+P)};\quad\ldots;$

$(1/C_{(S\pm N\pm p)})^{K}=(p+1)\cdot(p-0)\cdot\ldots\cdot 3,2,1!\ /(S-0)\cdot(S-1)\cdot\ldots\cdot(S-p)!\ ;$

$|(1/C_{(S-N-p)})^{K}|=|(1/C_{(S+N+p)})^{K}|;$

Corresponding to the other coefficients above

$\{({}^{S}\sqrt{\alpha})\}^{K(S\pm N\pm(q=0,1,,2,3,\ldots)}=\{({}^{S}\sqrt{D})\}^{K(S\pm N\pm(q=0,1,,2,3,\ldots)}$。 q=0,1,2,3,…=0-0，1-1，2-2, 3-3,... J-J,

which means the form of group combination, which is different from "self-multiplying power". The group combination $\{{}^{KS}\sqrt{D}\}^{K(S\pm N\pm(q=0,1,,2,3,\ldots)}$ it is represented by set curly brackets and arithmetic parentheses $\{{}^{KS}\sqrt{D}\}^{KS}$.

Where: Combination coefficient regularization: meets Yang Hui-Pascal's triangular distribution, composing the balance characteristic of the calculus equation.

The traditional combination coefficient is expressed as $C^{n}_{m,}$, which cannot meet the description requirements of multivariate combination. It is written as$(1/C_{(S\pm N\pm p)})^{K}$ called group combination coefficient; S: number of elements; N calculus; P: item order; ! : Harmony multiplication.

Definition 2.1.3 Euler product formula and characteristic mode:

The combination coefficient extracted by the polynomial coefficient is divided into the group combination form to obtain the function average value, which is called the characteristic modulus (the average value of the positive, middle, and inverse functions).

(2.1.4)$({}^{S}\sqrt{\alpha_0})^{K(S)/t}=(x_0)^{K(S)/t}=\sum_{(i=S)}(1/C_{(S\pm N-p)})^{K}\prod_{(i=p)}({}^{KS}\sqrt{(x_1 x_2\ldots x_p)})^{K(S)/t}\in\{X_0{}^{S}\}^{K(S\pm N)/t};$

(2.1.5) $({}^{S}\sqrt{\alpha_0})^{K(S)/t}=(\mathbf{D}_0)^{K(S)/t}=\sum_{(i=S)}(1/C_{(S\pm N-P)})^{K}\prod_{(i=p)}({}^{KS}\sqrt{(D_1D_2\ldots D_p)})^{K(S)/t}\in\{D_0{}^{S}\}^{K(S\pm N)/t};$

In the formula:$(1/C_{(S\pm N+P)})^{K}$，$(1/C_{(S\pm N-P)})^{K}$respectively represent the number form of combination, called combination coefficient, which has symmetry. $(x_0)^{K(S\pm N)/t}$，$(\mathbf{D}_0)^{K(S\pm N)/t}$ form the average value of the group combination (sub-item). K=(+1,±0±1,-1)means function, numerical property and change property.

Definition 2.1.4 Euler product formula and circle logarithm: Introduce the function average $B=S\mathbf{D}_0$; $\mathbf{D}_0=(1/S)(\mathbf{D}_1+\mathbf{D}_2+\ldots+\mathbf{D}_s)$; boundary conditions: $\mathbf{D}=\prod_{(S\pm P)}\{\mathbf{D}_1\,\mathbf{D}_2\ldots\mathbf{D}_p\}$; the known boundary conditions are written as$\mathbf{D}=({}^S\sqrt{\mathbf{D}})^S$;或 $\mathbf{D}=({}^S\sqrt{\mathbf{D}})^{K(S\pm N\pm q)/t}$.

The known boundary conditions are written as$\mathbf{D}=({}^S\sqrt{\mathbf{D}})^S$; or$\mathbf{D}=({}^S\sqrt{\mathbf{D}})^{K(S\pm N\pm q)/t}$

(2.1.6) $({}^S\sqrt{\alpha})=\{({}^S\sqrt{\alpha})/{}^S\sqrt{\mathbf{D}}\}^{K(S\pm N)}\cdot({}^S\sqrt{\mathbf{D}})^{K(S+N)}=\{(1-\eta^2)\cdot({}^S\sqrt{\mathbf{D}})\}^{K(S\pm N)}$

(2.1.7) $(1-\eta^2)^{K(S\pm N)/t}=(1-\eta^2)^{K(S-N)/t}\cdot(1-\eta^2)^{K(S+N)/t}$;

(2.1.8) $(1-\eta^2)^{K(S\pm N)/t}=(1-\eta^2)^{K(S-N)/t}+(1-\eta^2)^{K(S+N)/t}$;

Circle logarithm equation:

(2.1.9) $(1-\eta^2)^{K(S\pm N)/t}=(1-\eta^2)^{K(S\pm N\pm 0)/t}+(1-\eta^2)^{K(S\pm N\pm 1)/t}+\ldots+(1-\eta^2)^{K(S\pm N\pm q)/t}$;

The calculus equation is developed on the basis of the "binomial". The difference is that the power function (time series) has areas, calculus symbols, combination forms, and other symbols. The zero-order calculus is called the original function.

The sub-term of the "binomial" expansion is called the "group combination" of calculus. The group combination can establish the relative symmetry balance of probability-topology-center zero through the logarithm of the circle, conversion, and the "stride" of the calculus order (the total elements have Change) the group combination of external elements changes, "iteration" (the total elements do not change) the group combination of internal elements changes) state.

[Proof 1] The relationship between Euler product formula and circle logarithm

The Euler product formula already has polynomial coefficients, and the auxiliary function is introduced as a known boundary condition, and the Newton's binomial expansion with the calculus symbol and the power function is established.

(2.1.8) $\{({}^S\sqrt{\alpha})\pm{}^S\sqrt{\mathbf{D}}\}^{K(S\pm N)}=A({}^S\sqrt{\alpha})^{K(S\pm N\pm 0)}\pm B({}^S\sqrt{\alpha})^{K(S\pm N\pm 1)}+C({}^S\sqrt{\alpha})^{K(S\pm N\pm 2)}$

$\pm P({}^S\sqrt{\alpha})^{K(S\pm N\pm P)}+\ldots\pm\{\mathbf{D}_0\}^{K(S\pm N\pm S)}$

$=$

$(C_{(S\pm N-0)})({}^S\sqrt{\alpha})^0\pm(C_{(S\pm N-1)})({}^S\sqrt{\alpha})^{K(S\pm N-1)}\mathbf{D}_0^{K(S\pm N+1)}+(C_{(S\pm N-2)})({}^S\sqrt{\alpha})^{K(S\pm N-2)}\mathbf{D}_0^{K(S\pm N+2)}\pm\ldots+(C_{(S\pm N-p)})({}^S\sqrt{\alpha})^{K(S\pm N-p)}\mathbf{D}_0^{K(S\pm N+p)}+\ldots\pm\{\mathbf{D}_0\}^{KK(S\pm N+0)}$

$=({}^S\sqrt{\alpha})^0\pm({}^S\sqrt{\alpha_0})^{K(S\pm N-1)}\mathbf{D}_0^{K(S\pm N+1)}+({}^S\sqrt{\alpha_0})^{K(S\pm N-2)}\mathbf{D}_0^{K(S\pm N+2)}\pm\ldots+({}^S\sqrt{\alpha_0})^{K(S\pm N-p)}\mathbf{D}_0^{K(S\pm N+p)}+\ldots\pm\{\mathbf{D}_0\}^{KK(S\pm N+0)}$

$=(1-\eta^2)\cdot[({}^S\sqrt{\alpha})^0\pm({}^S\sqrt{\alpha_0})^{K(S\pm N-1)}\mathbf{D}_0^{K(S\pm N+1)}+({}^S\sqrt{\alpha_0})^{K(S\pm N-2)}\mathbf{D}_0^{K(S\pm N+2)}\pm\ldots+({}^S\sqrt{\alpha_0})^{K(S\pm N-p)}\mathbf{D}_0^{K(S\pm N+p)}+\ldots\pm\{\mathbf{D}_0\}^{KK(S\pm N+0)}]$

$=(1-\eta^2)\cdot\{x_0\pm\mathbf{D}_0\}^{K(S\pm N)}$

$=\{(1-\eta^2)(0,2)\mathbf{D}_0\}^{K(S\pm N)}$;

The circle logarithm reflects the degree of inhomogeneity and asymmetry, so that asymmetry is transformed into relative symmetry $\{x_0\}=\{\mathbf{D}_0\}$.

(2.1.9) $(1-\eta^2)\cdot[\{x_0\}^{K(S\pm N)}\pm\{\mathbf{D}_0\}]^{K(S\pm N)}=\{(1-\eta^2)(0,2)\mathbf{D}_0\}^{K(S\pm N)}$;

Definition 2.1.5 The Euler product formula is converted into a circle logarithm and the description of the characteristic mode of the known boundary conditions.

(2.1.10) $\{({}^S\sqrt{\alpha_0})\}^{K(S\pm N)}=[\mathbf{A}({}^S\sqrt{\alpha})^0\pm\mathbf{B}({}^S\sqrt{\alpha})^1+\mathbf{C}({}^S\sqrt{\alpha})^2\pm\ldots+\mathbf{P}({}^S\sqrt{\alpha})^p+\ldots]/(\mathbf{D}_0)]^{K(S\pm N)}$

$=[(C_{(S-N-0)})({}^S\sqrt{\alpha})^0\pm(C_{(S-N-1)})({}^S\sqrt{\alpha})^1+(C_{(S-N-2)})({}^S\sqrt{\alpha})^2\pm\ldots+(C_{(S-N-p)})({}^S\sqrt{\alpha})^p+\ldots]^{K(S\pm N)}$

$=\{({}^S\sqrt{\alpha_0})/\mathbf{D}_0\}^{K(S\pm N)}\cdot\{\mathbf{D}_0\}^{K(S\pm N)}$

$=\{(1-\eta^2)\cdot\{\mathbf{D}_0\}^{K(S\pm N)}$;

The group combination coefficient $C_{(S\pm p)}$ is distributed regularly according to the Yanghui-Pascal triangle rule. The combination coefficient represents the number of elements within the group combination, divided by the corresponding combination item to get the positive, middle, and inverse mean function, called the unknown calculus characteristic modulus$\{x_0\}^{K(S\pm N)/t}$ and the known calculus The characteristic mode$\{D_0\}\}^{K(S\pm N)/t}$

The formulas (2.1.1) and (2.1.10) prove the connection between the Euler product formula and the logarithm of the circle, which can be transformed into the description of the calculus group combination.

In the formula: K(S±N±q), the properties of Kfunction; (S)power dimension order;(N=±0,1,2) calculus order; (q)group combination form;$(1-\eta^2)$ Logarithm of circle; power function introduces time into time series.

[Proof 2]: Euler product formula and integer expansion of circle logarithmic power function:

It is proved that the one-to-one comparison based on the principle of group combination relativity is adopted, and the unknown group combination item is divided by the corresponding known group combination item, and the set of circle logarithms of each group combination item is obtained.

Therefore, look for the radical solution of$({}^S\sqrt{\alpha})^S=({}^S\sqrt{\mathbf{D}})^S$ this(n-1)"auxiliary" equation, which contains the unknown average element$\{x_0\}$and the known average element$\{D_0\}$, and The circle logarithm forms a five-dimensional and six-dimensional space concept withprobability-topology-center zero point and periodic rotation + precession.

The power function is the form of "group combination" combined elements, which reflects the combination of increasing or decreasing factors of the location, level, calculus order, etc., called "span", combined with time into a time series. The power function can abbreviate its value and function. Iteration

Let:$D=({}^{S}\sqrt{\alpha})^{K(S)/t}=({}^{S}\sqrt{x_1x_2\ldots x_S})^{K(S)/t}$, $D_0^{K(S)/t}=\sum_{(i=S)}(1/C_{(S\pm p)})^K({}^{KS}\sqrt{\prod_{(i=p)}\{x_1\ x_2\ \ldots x_p\}})^{K(S)/t}$is an auxiliary function; power function K(Z±S±Q±N±p±…±m±(q)/t(abbreviated as K(Z±S±(q)/t;

Definition 2.1.6 The first (continuous multiplication) basic modulus: combination coefficient = 1;

(2.1.12) $\{X_0\}^{K(Z\pm S\pm(q=\pm1)/t}=\{{}^{KS}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm(q=\pm0)/t}$
$=\{({}^{KS}\sqrt{\mathbf{D}})/(\mathbf{D}_0)\cdot(\mathbf{D}_0)\}^{K(Z\pm S\pm(q=\pm0)/t}$
$=\{(1-\eta^2)\cdot(\mathbf{D}_0)\}^{K(Z\pm S\pm(q=\pm0)/t}$;

Definition 2.1.7 The second (continuous addition) basic modulus: combination coefficient = (1/S);

(2.1.13) $\{X_0\}^{K(Z\pm S\pm(q=\pm1)/t}=\{\sum_{(S-N)}(1/C_{(Z\pm S\pm(q=\pm1))})^K({}^{KS}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm(q=\pm1)/t}$
$=\sum_{(i=S)}\{(1/C_{(Z\pm S\pm(q=\pm1))})^K({}^{S}\sqrt{\mathbf{D}})/(\mathbf{D}_0)\cdot(\mathbf{D}_0)\}^{K(Z\pm S\pm Q\pm N\pm p\pm\ldots\pm m\pm(q=\pm1)/t}$
$=\{(1-\eta^2)\cdot(\mathbf{D}_0)\}^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(q=\pm1)/t}$;

Definition 2.1.8 power function (time series) as high-dimensional space{q}∈ (contracted in) low-dimensional space $\{q_{jik}\}$.

(2.1.14) $[\{{}^{KS}\sqrt{X}\}=\{q\}]^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(q)/t}\in[\{q_{jik}\}=\{{}^{KS}\sqrt{X_{jik}}\}]^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(qjik)/t}$;

The zero-order, first-order, and second-order (N=±0,1,2) of calculus are generated. The basic module is the group combination unit {qjik}, which is called the triplet generator.

Multiply the elements without repeating the combination set to get the polynomial divided by the basic modulus to get the integer expansion:

(2.1.15) $\{X_0\}^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(q)/t}/\{X_0\}^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(q=\pm0)/t}=k(Z\pm S\pm(N)\pm p\pm(q)/t$;

(2.1.16) $\{X_0\}^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(q)/t}/\{X_0\}^{K(Z\pm S\pm Q\pm(N)\pm p\pm\ldots\pm m\pm(q=\pm1)/t}=k(Z\pm S\pm(N)\pm p\pm(q)/t$;

In the formula:K(Z±S±*Q*±*N*±*p*±...±*m*±*q*)/trespectively represent function properties, infinite elements, arbitrary finite elements, regional level, calculus order, item order, element variation range in sequence (Definite calculus), combination number form, time system.

[Proof 3] The calculus function and the reciprocity of the circle logarithm

Reciprocity in mathematics is a very important theorem. It is called the yeast of the theorem, which means that many theorems extend from it. Formula (2.1.8) also proves that the unknown function $F(\cdot)=\{x\}=({}^{S}\sqrt{\alpha})^{K(Z\pm S-q)/t}$and Reciprocity with the known function$G(\cdot)=\{\mathbf{D}\}=(\mathbf{D}_0)\}^{K(Z\pm S+q)/t}$.

Continue to describe the reciprocal theorem of general functions (called unitary matrices).

Yes: Convert the coefficients of Euler's product formula to group combination coefficients

Suppose: select any finite group combination,

$(x)^{K(Z\pm S\pm(N)\pm(q)/t}=(x_1\cdot x_2\cdot\ldots\cdot x_q)^{K(Z\pm S\pm(N)\pm(q)/t}=\{X_0\}^{+(q=+q)/t}$; represents the q-q combination;

$(x_0)^{K(Z\pm S\pm(N)\pm(q=1)/t}=(1/S)(x_1+x_2+\ldots+x_q)=\{X_0\}^{\pm(q=+1)/t}$; means 1-1 combination;

$(x_0)^{K(Z\pm S\pm(N)\pm(q=2)/t}=(1/C_{(Z\pm S\pm(N)-(q=+2))})^K\prod_{(S=-2)}({}^{S}\sqrt{\alpha})^{K(Z\pm S\pm(N)-(q=+2)/t}=\{X_0\}^{\pm(q=+2)/t}$; means 2-2 combination;

Sequentially infer the group combination function,

Proof: Function reciprocity:

(2.1.14) $\{X\}^{K(Z\pm S\pm(N)\pm(q)/t}=(x_1x_2\ldots x_q)^{K(Z\pm S\pm(N)\pm(q)/t}$
$=(x_1x_2\ldots x_q)^{K(Z\pm S\pm(N)\pm(q)/t}/(1/S)(x_1+x_2+\ldots+x_P)^{K(Z\pm S\pm(N)+(q=1)/t}$
$=[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q)/t}/\{X_0\}^{(q=+1)/t}]^{+1}\cdot\{X_0\}^{(q=+1)/t}$
$=[\{X_0\}^{(q=+1)/t}/\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm q)/t}]^{-1}\cdot\{X_0\}^{(q=+1)/t}$
$=[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)-(q=-1)/t}\cdot\{X_0\}^{k(Z\pm S\pm(N)\pm(p)+(q=+1)/t}$

Circle logarithm reciprocity: by formula (2.1.14) or iteration (±1); $dx=\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q=1)/t}$;

(2.1.15) $[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q=1)/t}=[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)+(q=1)/t}\cdot\{X_0\}^{k(Z\pm S\pm(N)\pm(p)-(q=1)/t}$
$=[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q=1)/t}/\{X_0\}^{k(Z\pm S\pm(N)\pm(p)+(q=1)/t}]^{+1}\cdot\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q=+2)/t}$
$=[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)+(q=1)/t}/\{X_0\}^{k(Z\pm S\pm(N)\pm(p)-(q=1)/t}]^{-1}\cdot\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q=+2)/t}$
$=(1-\eta^2)^{k(Z\pm S\pm(N)\pm(p)\pm(q=\pm1)/t}\cdot\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q=+2)/t}$

Move a $\{X_0\}^{k(Z\pm S\pm(N)\pm(p)+(q=1)/t}$ to the left of the equal sign, and pay attention to the antisymmetric property of the regularization combination coefficient:

get:

(2.1.16) $[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)-(q=1)/t}=(1-\eta^2)^{k(Z\pm S\pm(N)\pm(p)\pm(q=\pm1)/t}\cdot\{X_0\}^{k(Z\pm S\pm(N)\pm(p)+(q=1)/t}$;

[Proof 4]: Berman-Hartmanis reciprocity theorem: any form of group combination, or iteration (±J);

heve $F(\cdot)=\mathbf{\Sigma}_{(Z\pm S\pm(N)-(q)))}{}^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)-(q=j)/t}$
$=({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)-(q=0)/t}+({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)-(q=1)/t}$
$+({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)-(q=2)/t}+\ldots+({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)-(q=p)/t}$
$=(1/C_{(Z\pm S\pm(N)-(q)=0)})^{K}\prod_{(S=0)}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)-(q)=0)/t}$
$+(1/C_{(Z\pm S\pm(N)-(q=1))})^{K}\mathbf{\Sigma}_{(S=1)}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)-(q=1)/t}$
$+(1/C_{(Z\pm S\pm(N)-(q=2))})^{K}\prod_{(S=2)}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)-(q=2)/t}+\ldots;$
$G(\cdot)=\mathbf{\Sigma}_{(Z\pm S\pm(N)+(q)))}{}^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=j)/t}$
$=({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)+(q=0)/t}+({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)+(q=1)/t}$
$+({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)+(q=2)/t}+\ldots+({}^{S}\sqrt{a_0})^{K(Z\pm S\pm(N)+(q=p)/t}$
$=(1/C_{(Z\pm S\pm(N)+(q)=0)})^{K}\prod_{(S=0)}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q)=0)/t}$
$+(1/C_{(Z\pm S\pm(N)+(q=1))})^{K}\mathbf{\Sigma}_{(S=1)}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=1)/t}$
$+(1/C_{(Z\pm S\pm(N)+(q=2))})^{K}\prod_{(S=2)}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=2)/t}+\ldots;$
$[F(\cdot)\cdot G(\cdot)]^{(\pm j)}=F(\cdot)^{(+j)}\cdot G(\cdot)^{(-j)}=\mathbf{\Sigma}_{(Z\pm S-(q=\pm j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(q=j)/t}$

get:

$[F(\cdot)\cdot G(\cdot)]^{(\pm j)}=[({}^{S}\sqrt{a})^{k(Z\pm S\pm(N)\pm(p)\pm(q=j)/t}$
$=[\mathbf{\Sigma}_{(Z\pm S\pm(q=j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(q=j)/t}/G(\cdot)]^{(+j)}\cdot G(\cdot)^{(+j)}$
$=[({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=j)/t}/({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)+(q=j)/t}]^{+1}\cdot({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=j)/t}$
$=[({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)+(q=j)/t}/({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=j)/t}]^{-1}\cdot({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=+j)/t}$
$=(1-\eta^2)^{k(Z\pm S\pm(N)\pm(p)\pm(q=\pm j)/t}\cdot({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=+j)/t};$

Move$({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)+(q=+j)/t}$ to the left of the equal sign, $[F(\cdot)\cdot G(\cdot)]^{(\pm j)}$ is Eliminate one $({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)+(q=j)/t}$, and pay attention to the antisymmetric property of the regularized combination coefficient: get$({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}=F(\cdot)^{(-J)}$;

(2.1.17)$F(\cdot)^{(-J)}=[\mathbf{\Sigma}_{(Z\pm S\pm(q=j))}(1/C_{(Z\pm S\pm(q=j))})^{K}({}^{S}\sqrt{D})^{K(Z\pm S+(q=j)/t}]=[(1-\eta^2)G_0(\cdot)]^{K(Z\pm S-(q=-j)/t}$;

The same goes for:

$[F(\cdot)\cdot G(\cdot)]=\mathbf{\Sigma}_{(Z\pm S-(q=\pm j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)-(q=\pm j)/t}$
$=[\mathbf{\Sigma}_{(Z\pm S\pm(q=j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(q=j)/t}/F(\cdot)]^{(-j)}\cdot F(\cdot)^{(-j)}$
$=[({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=j)/t}/({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}]^{+1}\cdot({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}$
$=[({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}/({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)\pm(q=j)/t}]^{-1}\cdot({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}$
$=(1-\eta^2)^{k(Z\pm S\pm(N)\pm(p)\pm(q=\pm j)/t}\cdot({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=+j)/t}$

Move $({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}$ to the left of the equal sign, $[F(\cdot)\cdot G(\cdot)]^{(\pm j)}$ is eliminated A$({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)-(q=j)/t}$, and pay attention to the antisymmetry of the regularization combination coefficient: get $({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)\pm(p)+q=j)/t}=G(\cdot)^{(+J)}$;

(2.1.18) $G(\cdot)=[\mathbf{\Sigma}_{(Z\pm S\pm(q))}(1/C_{(Z\pm S\pm(q+j))})^{K}({}^{S}\sqrt{D})^{K(Z\pm S+(q+j)/t}]=[(1-\eta^2)F_0(\cdot)]^{K(Z\pm S+(q=j)/t}$;

Function reciprocity

(2.1.19)$F(\cdot)\cdot G(\cdot)=[(1-\eta^2)F_0(\cdot)]^{K(Z\pm S-(q=j)/t}\cdot[(1-\eta^2)G_0(\cdot)]^{K(Z\pm S+(q=j)/t}]$
$=(1-\eta^2)^{K(Z\pm S\pm(q=\pm j)/t}[F_0(\cdot)G_0(\cdot)]^{K(Z\pm S\pm(q=\pm j)/t}$;

(2.1.20)$(1-\eta^2)^{K(Z\pm S\pm(q=\pm j)/t}=(1-\eta^2)^{K(Z\pm S\pm(q=-j)/t}+(1-\eta^2)^{K(Z\pm S\pm(q=+j)/t}$

(2.1.21)$(1-\eta^2)^{K(Z\pm S\pm(q=\pm j)/t}=(1-\eta^2)^{K(Z\pm S\pm(q=-j)/t}\cdot(1-\eta^2)^{K(Z\pm S\pm(q=+j)/t}$;

among them:

（1）$(1-\eta^2)^{K(Z\pm S\pm(q=-j)/t}=[\mathbf{\Sigma}_{(i=\pm S)}(1/C_{(S\pm q)})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm q)/t}]/[\mathbf{\Sigma}_{(S+q)}(1/C_{(S+(q=+j)})^{K}({}^{S}\sqrt{D})^{K(Z\pm S+(q=+j))/t}]$;

（2）$(1-\eta^2)^{K(Z\pm S\pm(q=+j)/t}=[\mathbf{\Sigma}_{(S-q)}(1/C_{(S\pm p)})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm q)/t}]/[\mathbf{\Sigma}_{(S-q)}(1/C_{(S-(q=-j)})^{K}({}^{S}\sqrt{D})^{K(Z\pm S-(q=-j)/t}]$;

（3）$\mathbf{\Sigma}_{(Z\pm S+(q=j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=\pm j)/t}/\mathbf{\Sigma}_{(Z\pm S+(q=+j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=+j)/t}$
$=\mathbf{\Sigma}_{(Z\pm S+(q=-j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=-j)/t}=F(\cdot)$;

（4）$\mathbf{\Sigma}_{(Z\pm S+(q=j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=\pm j)/t}/\mathbf{\Sigma}_{(Z\pm S+(q=-j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=-j)/t}$
$=\mathbf{\Sigma}_{(Z\pm S+(q=+j))})^{K}({}^{S}\sqrt{a})^{K(Z\pm S\pm(N)+(q=+j)/t}=G(\cdot)$;

The formula (2.1.1)-(2.1.19) can be adapted for $j\leq(S-1)$.

[Proof 5]: Center zero (called infinitesimal limit in traditional mathematics)

Establish simultaneous equations of circle logarithms:

(2.1.22)$(1-\eta^2)^{K(Z\pm S-q)/t}\cdot(1-\eta^2)^{K(Z\pm S+q)/t}=\{1\}^{K(Z\pm S\pm q)/t}$;

(2.1.23)$(1-\eta^2)^{K(Z\pm S-q)/t}+(1-\eta^2)^{K(Z\pm S+q)/t}=\{1\}^{K(Z\pm S\pm q)/t}$;

Solve the simultaneous equations (2.1.22) and (2.1.23) to get the central zero point. The traditional calculus is called the limit:

(2.1.24)$(1-\eta^2)^{K(Z\pm S\pm q)/t}=(0,1/2,1)^{K(Z\pm S\pm q)/t}$

Among them:

$(1-\eta^2)^{K(Z\pm S\pm q)/t}=(0,1)$is called the trivial zero point, which represents the integer value of the end of the group combination.

$(1-\eta^2)^{K(Z\pm S\pm q)/t}=(1/2)$ represents the group combination probability-the zero point of the relative symmetry of the center of the topology, which satisfies the balance of the logarithmic factor of the circle on both sides of the center. In other words, the central symmetry zero point converts the function of the two-sided asymmetry into the expansion of the two-sided symmetry of the circle logarithmic factor. According to the symmetry, the root element of the probability-topology can be solved, which has:

Probability circle logarithmic symmetry:

(2.1.25) $\boldsymbol{\Sigma}_{(Z\pm S+(q=+1))})^{K}(+\eta_H)^{K(Z\pm S\pm(N)+(q=+1)/t}+\boldsymbol{\Sigma}_{(Z\pm S+(q=-1))})^{K}(-\eta_H)^{K(Z\pm S\pm(N)+(q=+1)/t}=0$;

Topological circle logarithmic symmetry:

(2.1.26)$\boldsymbol{\Sigma}_{(Z\pm S+(q=+1))})^{K}(+\eta^2)^{K(Z\pm S\pm(N)+(q=+1)/t}+\boldsymbol{\Sigma}_{(Z\pm S+(q=-1))})^{K}(-\eta^2)^{K(Z\pm S\pm(N)+(q=-1)/t}=0$;

2.2. Euler product formula and calculus-infinite expansion of circle logarithm

Definition 2.2.1 Group combination, the infinite expansion of Euler product formula, called group combination. The introduction of(Z) represents "infinity", indicating that the calculus equation can be adapted to the group combination of infinite elements. $({}^S\sqrt{a})^{K(Z)/t}=(D)=\{\mathbf{D_0}\}^{K(Z\pm S\pm Q\pm N\pm p\pm\ldots\pm m\pm q)/t}$, the basic modulus is introduced in the power function (time series) $\{({}^S\sqrt{x_1x_2\ldots x_S})\}^{K(1)/t}$ get the integer expansion of the power function. The power function reflects the area, level, and other relevant ranges where the group combination is located.

(2.2.1) $({}^S\sqrt{a})^{K(Z\pm S)/t}/({}^S\sqrt{x_1x_2\ldots x_S})^{K(1)/t}=K(Z)/t=K(Z\pm S\pm Q\pm N\pm p\pm\ldots\pm m\pm q)/t$;

Define 2.2.2 group combination average function, or calculus multivariate group combination, characteristic modulus positive, middle, and inverse function average.

(2.2.2)
$$({}^S\sqrt{a_0})^{K(Z\pm S)/t}=({}^S\sqrt{X_0})^{K(Z\pm S\pm Q\pm N\pm p\pm\ldots\pm m\pm q)/t}=({}^S\sqrt{\mathbf{D_0}})^{K(Z\pm S\pm Q\pm N\pm p\pm\ldots\pm m\pm q)/t}$$
$$=({}^S\sqrt{a})^{(Z\pm S\pm N\pm m\pm 0)/t}+(1/C_{(S\pm 1)})^K({}^S\sqrt{a}))^{(Z\pm S\pm N\pm m\pm 1)/t}+\ldots+(1/C_{(S\pm q)})^K({}^S\sqrt{a})^{(Z\pm S\pm N\pm m\pm q)/t}$$
$$=[(1-\eta^2)^{(Z\pm S\pm N\pm m\pm 0)/t}+(1-\eta^2)({}^S\sqrt{a}))^{(Z\pm S\pm N\pm m\pm 1)/t}+\ldots+(1-\eta^2)]({}^S\sqrt{a})^{(Z\pm S\pm N\pm m\pm q)/t};$$

The formula (2.2.2) describes the non-repeated combination and integration of elements in the parallel/serial area of the multi-media state of the combined unit of the calculus group. The combined elements of the group are in $(Z\pm S\pm N\pm m\pm q)/t$ (m Denotes the range of element variation, called definite calculus) composes a calculus equation, which is converted into a calculus-circle logarithmic dynamic equation, analysis and cognition in the interval {0 to 1}.

(2.2.3) $({}^S\sqrt{a_0})^{K(Z\pm S)/t}=({}^S\sqrt{a_0})^{(Z\pm S\pm N\pm m\pm 0)/t}+({}^S\sqrt{a_0})^{(Z\pm S\pm N\pm m\pm 1)/t}+\ldots+({}^S\sqrt{a_0})^{(Z\pm S\pm N\pm m\pm q)/t}$;

(2.2.4)$(1-\eta^2)^{(Z\pm S\pm N\pm m\pm 0)/t}=(1-\eta^2)^{(Z\pm S\pm N\pm m\pm 0)/t}+(1-\eta^2)^{(Z\pm S\pm N\pm m\pm 1)/t}+\ldots+(1-\eta^2)^{(Z\pm S\pm N\pm m\pm q)/t}$;

Formulas (2.2.1)-(2.2.4) each sub-item (group combination) corresponds to the infinite calculus equation dynamic system.

In the formula: subscript$K(Z\pm S\pm\ldots)$, superscript$K(Z)/t=K(Z\pm S\pm Q\pm\ldots\pm N\pm p\pm q)/t$ represents the area, level and combination of the group combination Number and power system. (The same below, can be abbreviated).

Definition 2.2.3 Center and boundary of group combination: Apply the principle of Brouwer center theorem: boundary and center are equivalent and can be converted (moved) equivalently. The physical meaning: it means that a viewpoint (center zero point or closed boundary) is in multiple areas, multiple environments, multiple perspectives, and multiple data searched to perform dynamic analysis and cognition of calculus equations.

For example, one or more dynamic unit groups are combined to form different dynamic frames through time series. Therefore, "multivariable calculus equations, as long as you select and input objects that are representative or a small number of angles in the multivariate data, you can simplify the calculation or synthesize a new 3D view of the 360^0 object."

Definition 2.2.4 Circle logarithm and group combination: the average value of each group combination sub-item divided by the total group combination average.

(2.2.5)
$$(1-\eta^2)^{K(Z\pm S)/t}=({}^S\sqrt{a_0})^{-(Z\pm S)/t}/(D_0)^{+(Z\pm S)/t}$$
$$=(X_{0i})^{-(Z\pm S)/t}/(D_0)^{+(Z\pm S)/t}$$
$$=(1-\eta^2)^{K(Z\pm S\pm 0)/t}+(1-\eta^2)^{K(Z\pm S\pm 1)/t}+\ldots+(1-\eta^2)^{K(Z\pm S\pm p)/t}$$
$$=\{0\text{ to }1\}^{K(Z\pm S)/t};$$

Definition 2.2.5 Group combinations reflect their asymmetry degree through the logarithm of the circle,

(2.2.7) $\{X\}^{K(Z\pm S)/t}=(1-\eta^2)^{K(Z\pm S)/t}\{D\}^{K(Z\pm S)/t}$;

(2.2.8) $\{X_0\}^{K(Z\pm S)/t}=(1-\eta^2)^{K(Z\pm S)/t}\{D_0\}^{K(Z\pm S)/t}$;

(2.2.9) $\{X\cdot D\}^{K(Z\pm S)/t}=(1-\eta^2)^{K(Z\pm S)/t}\{X_0\cdot D_0\}^{K(Z\pm S)/t}$;

(2.2.10) $\{X\pm D\}^{K(Z\pm S)/t}=(1-\eta^2)^{K(Z\pm S)/t}\{X_0\pm D_0\}^{K(Z\pm S)/t}$

(2.2.11)$(1-\eta^2)^{K(Z\pm S)/t}=[(1-\eta_H^2)\cdot(1-\eta_\omega^2)\cdot(1-\eta_T^2)]^{K(Z\pm S)/t}$

Where: $\{X\}^{K(Z\pm S)/t}\neq\{D\}^{K(Z\pm S)/t}$; $\{X_0\}^{K(Z\pm S)/t}\neq\{D_0\}^{K(Z\pm S)/t}$;
$\{X\cdot D\}^{K(Z\pm S)/t}\neq\{X_0\cdot D_0\}^{K(Z\pm S)/t}$; $\{X\pm D\}^{K(Z\pm S)/t}\neq\{X_0\pm D_0\}^{K(Z\pm S)/t}$;

among them:

(1)"The logarithm of the probability circle" reflects the probability distribution relationship within the group elements.

(2) "Weight circle logarithm" reflects the asymmetry relationship between group combination elements and "center zero" or "boundary";

(3) The "potential energy circle logarithm" reflects the topological relationship between group combination and multidimensional space.

The circle logarithm converts asymmetric elements, functions, group combinations, etc. into relative symmetry.

2.3. The normalization of Euler's formula combination repetition rate and circle logarithm

Definition 2.3.1 Combination repetition rate: infinite element$({}^S\sqrt{\alpha})^{-(Z\pm S)/t}$ and$({}^S\sqrt{\alpha_0})^{-(Z\pm S)/t}$in the non-repetitive combination, the group element p appears in the group combination The phenomenon of repeated occurrence of elements (p-1), the number of occurrences is called the combined repetition rate f_p.

[Proof 6] Combination repetition rate and normalization of circle logarithms

Definition 2.3.2 Combination repetition rate of logarithm of circle $\boldsymbol{f}$p: The internal elements of the continuous multiplication combination item are not repeated, so there are repeated elements between the sub-items of each group combination.

(2.3.1)
$$({}^S\sqrt{\alpha_0})^{k(Z\pm S\pm N-p)/t}=\{X_0\}^{k(Z\pm S\pm N-p)/t}$$
$$=\sum_{(i=S)}(1/C_{(S\pm(N)\pm(p))})^k[\{x_a x_b\ldots x_p\}^k+\{x_a x_c\ldots x_p\}^k+\ldots]\}^{k(Z\pm S\pm N\pm p)/t}$$
$$=\sum_{(i=S)}(\boldsymbol{f}p/C_{(S\pm N\pm 1)})^k\sum_{(i=p)}f_p[\{x_b\ldots x_p\}^k+\{x_c\ldots x_p\}^k+\ldots]\}^{k(Z\pm S\pm N\pm p)/t}$$
$$=\sum_{(i=S)}(1/C_{(S\pm N\pm 1)})^k\sum_{(i=p)}[\{x_b\ldots x_p\}^k+\{x_c\ldots x_p\}^k+\ldots]\}^{k(Z\pm S\pm N\pm 1)/t}$$

In the formula: the group combination coefficient satisfies the regularized distribution

(2.3.2)$C_{(S\pm N\pm p)}=(S-0)(S-1)\ldots(S-p)!\ /\ (P+1)(p-0)\ldots 3\cdot 2\cdot 1!$

(2.3.3)$\boldsymbol{f}_p=(S-1)\ldots(S-p)!\ /\ (P+1)(p-0)\ldots 3\cdot 2\cdot 1!$

(2.3.4)$C_{(S\pm N\pm p)}\ /\boldsymbol{f}_p=(S-0)/(S-1)=1$;

Definition 2.3.3 Normalization of circle logarithm

By eliminating the combined repetition rate: $(C_{(S\pm N\pm p)}/\boldsymbol{f}p)=\!\longrightarrow 1$; ; $(=\!\longrightarrow)$ means normalization.

(2.3.5) $\{X_0\}^{k(Z\pm S)/t}=\!\longrightarrow\{X_0\}^{k(Z\pm 1)/t}$;

(2.3.6) $(1-\eta^2)^{K(Z\pm S)/t}=\!\longrightarrow(1-\eta^2)^{K(Z\pm 1))/t}$;

(2.3.7$(1-\eta^2)^{K(Z\pm S)}=\!\longrightarrow\{X_0\}^{k(Z\pm S-1)/t}/\{X_0\}^{k(Z\pm S+1)/t:}=\!\longrightarrow(1-\eta^2)^{K(Z\pm 1)}$;

Normalization of circle logarithm:

(2.3.8)$(1-\eta^2)^{K(Z\pm S\pm N\pm P))/t}=\!\longrightarrow(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(P\pm j))/t}=\!\longrightarrow(1-\eta^2)^{K(Z\pm S\pm(N\pm 1)\pm(P\pm 1))/t}=\!\longrightarrow(1-\eta^2)^{K(Z\pm 1))/t}$;

The normalization table is the arithmetic linear superposition of the logarithmic factors of the circle of isomorphism.

(2.3.9)
$$\sum_{(i=S)}(\eta)^{K(Z\pm S\pm N\pm P)/t}=\!\longrightarrow[(\eta)^{K(Z\pm S\pm(N\pm j)\pm(P)\pm 0))/t}+(\eta)^{K(Z\pm S\pm(N\pm j)\pm(P)\pm 1))/t}$$
$$+(\eta)^{K(Z\pm S\pm(N\pm j)\pm(P)\pm 2))/t}+\ldots+(\eta)^{K(Z\pm S\pm(N\pm j)\pm(P)\pm q))/t}];$$

2.4. The isomorphism of Euler's formula combination and circle logarithm

Definition 2.4.1 Logarithm of isomorphic circles: It means that each group combination feature mode (average value of positive, middle and inverse functions) has a one-to-one correspondence with the same form of circle logarithm time series, reflecting the group combination feature mode mapping to the circle pair. The function of the number between [0 to 1] is convenient for unified description, analysis and calculation.

[Proof 7]Isomorphism of circle logarithms

According to Euler formula coefficient combination definition

Suppose: $({}^S\sqrt{\alpha})^{K(Z\pm S\pm N\pm 0)/t}=\boldsymbol{\Pi}_{(S=q)}(\alpha_1\alpha_2\ldots\alpha_q)$, a set of non-repeated combinations, and its sub-items are called group combinations, except for combination coefficients Become a characteristic modulus (average value of positive, medium and negative power unctions)

$$(\alpha_0)^{K(Z\pm S\pm N\pm 0)/t}=(\alpha_0)^{K(0)/t}+(\alpha_0)^{K(1)/t}+\ldots+(\alpha_0)^{K(q)/t};$$

A$({}^S\sqrt{\alpha})^{K(Z\pm S\pm N-0)/t}=(\alpha_0)^{K(1)/t}$;**B**$=S\Sigma(1/C_{(S=q-1)})^{+1}(\alpha_1+\alpha_2+\ldots+\alpha_q)=S(\alpha_0)^{K(1)/t}$;

C$=[(S-0)(S-1)/2]\cdot\Sigma(1/C_{(S=q-2)})^{+1}\boldsymbol{\Pi}_{(q=2)}(\alpha_1\alpha_2+\alpha_2\alpha_3+\ldots+\alpha_q\alpha_1)=[(S-0)(S-1)/2](\alpha_0)^{K(2)/t}$;

There are iterations (1):
$$(\alpha_0)^{K(-0)/t}=[(\alpha_0)^{K(0)/t}/(\alpha_0)^{K(q=+1)/t}]\cdot(\alpha_0)^{K(q=+1)/t}$$
$$=(\alpha_0)^{K(q=+(S-1))/t}\cdot(\alpha_0)^{K(q=+1)/t}$$
$$=[(\alpha_0)^{K(q=+(S-1))/t}\cdot(\alpha_0)^{K(+0)/t}]\cdot(\alpha_0)^{K(+0)/t}\cdot(\alpha_0)^{K(q=+1)/t}$$

$= (α_0)^{K(q=-(S-1))/t}·(α_0)^{K(q=+1)/t}·(α_0)^{K(+0)/t}$

$= (α_0)^{K(q=-1))/t}/(α_0)^{K(q=+1)/t}·(α_0)^{K(+0)/t}$;

Move: $(α_0)^{K(+0)/t}$ to the left to get isomorphism

$(1-η^2)^{K(S±0)/t}=(α_0)^{K(-0)/t}/(α_0)^{K(+0)/t}= (α_0)^{K(q=-(S-1))/t}/(α_0)^{K(q=+1)/t} =(1-η^2)^{K(S±1)/t}$

Logarithm of isomorphism circle: $(1-η^2)^{K(S±0)/t}=(1-η^2)^{K(S±1)/t}$;

There are iterations (2):

$(α_0)^{K(-0)/t}=[(α_0)^{K(0)/t}/(α_0)^{K(q=+2)/t}]·(α_0)^{K(q=+2)/t}$

$=(α_0)^{K(q=+(S-2))/t}·(α_0)^{K(q=+2)/t}$

$= [(α_0)^{K(q=+(S-2))/t}·(α_0)^{K(+0)/t}]·(α_0)^{K(+0)/t}·(α_0)^{K(q=+2)/t}$

$= (α_0)^{K(q=-(S-2))/t}·(α_0)^{K(q=+2)/t}·(α_0)^{K(+0)/t}$

$= (α_0)^{K(q=-2))/t}/(α_0)^{K(q=+2)/t}·(α_0)^{K(+0)/t}$;

Move: $(α_0)^{K(+0)/t}$ to the left to get isomorphism

$(1-η^2)^{K(S±0)/t}=(α_0)^{K(-0)/t}/(α_0)^{K(+0)/t}=(α_0)^{K(q=-(S-2))/t}/(α_0)^{K(q=+2)/t} =(1-η^2)^{K(S±2)/t}$;

Logarithm of isomorphism circle: $(1-η^2)^{K(S±0)/t}=(1-η^2)^{K(S±2)/t}$;

There are iterations（J）：

$(α_0)^{K(-0)/t}=[(α_0)^{K(0)/t}/(α_0)^{K(q=+j)/t}]·(α_0)^{K(q=+j)/t}$

$=(α_0)^{K(q=+(S-j))/t}·(α_0)^{K(q=+j)/t}$

$= [(α_0)^{K(q=+(S-j))/t}·(α_0)^{K(+0)/t}]·(α_0)^{K(+0)/t}·(α_0)^{K(q=+j)/t}$

$= (α_0)^{K(q=-(S-j))/t}·(α_0)^{K(q=+j)/t}·(α_0)^{K(+0)/t}$

$= (α_0)^{K(q=-j))/t}/(α_0)^{K(q=+j)/t}·(α_0)^{K(+0)/t}$;

Move: $(α_0)^{K(+0)/t}$ to the left to get isomorphism

$(1-η^2)^{K(S±0)/t}=(α_0)^{K(-0)/t}/(α_0)^{K(+0)/t}=(α_0)^{K(q=-(S-j))/t}/(α_0)^{K(q=+2)/t} =(1-η^2)^{K(S±j)/t}$;

Logarithm of isomorphism circle: $(1-η^2)^{K(S±0)/t}=(1-η^2)^{K(S±j)/t}$;

among them：$(α_0)^{K(q=+j)/t}=(α_0)^{K(q=+1)/t}·(α_0)^{K(q=+1)/t}·…·(α_0)^{K(q=+1)/t}$;

The relationship between Euler product formula derivation and circle logarithm:

(2.4.1) $[\mathbf{A}(^S\sqrt{α})^{K(Z±S±N±0)/t}+\mathbf{B}(^S\sqrt{α})^{K(Z±S±N±0)/t}$

$+\mathbf{C}(^S\sqrt{α})^{K(Z±S±N±0)/t}+…+\mathbf{P}(^S\sqrt{α})^{K(Z±S±N±0)/t}+…+D]/D_0^{K(Z±S±N+1)/t}$

$=[(1/C_{(S±0)})^K(^S\sqrt{α})^{K(Z±S±N±0)/t}+(1/C_{(S±1)})^K(^S\sqrt{α})^{K(Z±S±N-1)/t}$

$+(1/C_{(S-2)})^K(^S\sqrt{α})^{K(Z±S±N-2)/t}+…+(1/C_{(S-p)})^K(^S\sqrt{α})^{K(Z±S±N-p)/t}$

$=\{(1-η^2)(^S\sqrt{α_0})/D_0\}^{K(Z±S±N±0)/t}(D_0)^{K(Z±S±N+0)/t}$

$+\{(1-η^2)(^S\sqrt{α_0})/D_0\}^{K(Z±S -N-1)/t}(D_0)^{K(Z±S+N+1)/t}$

$+\{(1-η^2)(^S\sqrt{α_0})/D_0\}^{K(Z±S+N+2)/t}(D_0)^{K(Z±S+N+2)/t}+…$

$+\{(1-η^2)(^S\sqrt{α_0})/D_0\}^{K(Z±S-N- p)/t}(D_0)^{K(Z±S+N+p)/t}$

$+\{(1-η^2)(^S\sqrt{α_0})/D_0\}^{K(Z±S±N+0)/t}(D_0)^{K(Z±S+0)/t}$

$=\{(1-η^2)^{K(Z±S)/t}·\{D_0\}^{K(Z±S)/t}$

$=(1-η^2)·\{D_0\}^{K(Z±S)/t}$;

(2.4.2) $0≤(1-η^2)^{K(Z±S)/t}=\{(^S\sqrt{α_0})/D_0\}^{K(Z±S)/t}≤1$;

(2.4.3) $(1-η^2)^{K(Z±S±Q±N±p±…±m±q)/t}=\{(^S\sqrt{α})/ D_0\}^{K(Z±S±Q±N±p±…±m±q)/t}$;

$=\sum_{(i=S)}(1-η^2)^{K(Z±S±N±P)/t}=(1-η^2)^{K(Z±S±(N±j)±(P)±0))/t}$

$=(1-η^2)^{K(Z±S±(N±j)±(P)±1))/t}=(1-η^2)^{K(Z±S±(N±j)±(P)±2))/t}+…+(1-η^2)^{K(Z±S±(N±j)±(P)±q))/t}$;

Isomorphism proves that the logarithm based on the circle logarithm is stable and reliable, and any group combination has the same time calculation.

In particular, the isomorphism is based on the symmetry distribution of the regularization of the combination coefficients of the calculus group.

(2.4.4)$(1/C_{(S±p)})^K(^S\sqrt{α})^{K(Z±S±p)/t}=(1/C_{(S+p)})^K(^S\sqrt{α})^{K(Z±S+p)/t}·(1/C_{(S-p)})^K(^S\sqrt{α})^{K(Z±S-p)/t}$;

Make the circle logarithm and the characteristic mold have a shared time series, and expand with relative symmetry. Formula (2.4.1)-(2.4.4) The isomorphism of the circle logarithm is called the gauge invariance of the circle logarithm "three units (1)". Represents the logarithm of the circle and the characteristic mode, and expands with a shared time series.

Where: $(^S\sqrt{α_0})^{K(Z±S±Q±N±p±…±m±0)/t}$ is abbreviated as $(^{K(S)}\sqrt{α_0})^{K(Z±S-N-p)/t}$ or $(^S\sqrt{x})^{K(Z)/t}$ or $(^S\sqrt{\mathbf{D}})^{K(Z)/t}$ or or $(x_0)^{K(Z)/t}$ or $(D_0)^{K(Z)/t}$ expansion of the idempotent function (time series). Indicates the level and area range where the group combination element is located. (Certificate completed)

2.5. The relationship between continuous multiplication and continuous addition of elements of the calculus equation group

[Proof 8] The (order value) iteration inside the circle logarithmic group combination

When the total elements (Z±S)remain unchanged, the change in the average value of the combination form (item sequence) between the calculus order group combinations is called iteration. Indicates that the change of the combination form and combination coefficient within the group combination is $\{2\}^{k(Z\pm S\pm(N=\pm j)\pm(p)\pm(q)/t}$:

(2.5.1) $\{X_0\}^{k(Z\pm S\pm(N=\pm j)\pm(p=\pm j)\pm(q\pm j)/t}/\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q)/t}=k(Z\pm S\pm(N=j)\pm(p=\pm j)\pm(q=\pm)/t$;

The power function of formula (2.5.1) is an integer (J=0,1,2,3,...S natural number), which represents the "iteration" of the average value of the internal group combination, which is reflected as the combination form between the sub-items and the combination coefficient Variety. The physical phenomenon means that the particle does not change and the wave function changes to absorb or release internal (strain) energy, which is called internal energy change.

Among them: the value and the nature of the function(K=+1,±0or±1,-1)。 $\{q\}=\{^{KS}\sqrt{X}\}\in\{^{KS}\sqrt{X_{jik}}\}=\{x_j\omega_i r_k\}$ triple generator group combination, performance: zero-order calculus probability contribution element(x_j); first-order calculus contribution element weight (ω_i) the second-order calculus element contributes the element potential (r_k), and the logarithm of the symmetric circle through the central zero point becomes the mathematical basis for solving arbitrary high parallel/high serial calculus multivariable.

Among them, the high-order (power dimension, time series) calculus equation {q} and the low-dimensional $\{q_{jik}\}$ are synchronous to the (zero-order, first-order, second-order) calculus equation. It reflects the dynamic performance of high-dimensional space shrinking in low-dimensional three-dimensional space.

[Proof 9] Leap outside the circle logarithmic group combination

When the total element(Z±S±j) changes, the combination of group combinations changes, which is called spanning. Represents the change of the external combination form of the group combination, which is reflected as the change of the total combination form and the total combination coefficient as $\{2\}^{k(Z\pm S\pm(N)\pm(p)\pm(q)/t}$:

(2.5.2) $\{X_0\}^{k(Z\pm(S=S\pm j)\pm(N)\pm(p)\pm(q=\pm j)/t}/\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q)/t}=\{2\}^{k(Z\pm(S=\pm j)\pm(N)\pm(p)\pm(q=\pm j)/t}$;

The power function of formula (2.5.2) is an integer (J=0,1,2,3,...S natural number), which represents the "crossing" of the average value of the external group combination, which is reflected in the combination of the power dimension of the calculus equation The change of the coefficient. The physical phenomenon is expressed as the absorption or release of the energy particle transition, which is called the change of external energy.

2.6 Equivalent replacement and balance conversion of reciprocity

[Proof 10] Equivalent replacement principle of reciprocity and balance conversion

The principle of equivalent permutability of reciprocity is a universal theorem. In the Euler product formula, "Berman-Hartmanis (B-H) conjecture" and "abnormal zero point of Riemann zeta function $\{1/2\}^{+S}$"", the sum of the two prime numbers of Goldbach conjecture is $\{1/2\}^{-S}$" (even number)"; the Heisenberg uncertainty principle of physics, Lorentz-Einstein applied to the special theory of relativity, called the principle of equivalent permutation,... They are all manifested as the function-group-number theory-geometry-algebra internal and external different degrees of reciprocity and relative symmetry, and the principle of equivalent permutation of elements under isomorphism. Among them, the uncertainty of$F(\cdot)G(\cdot)=1$; $F(\cdot)\neq G(\cdot)$, the truth exists like a mystery. Some people don't understand and can't crack it, which has attracted a lot of controversy. There is still no reasonable explanation. Circle logarithm describes the degree of asymmetry and converts asymmetry to symmetry. By "the sum of reciprocal functions divided by the sum of positive functions = circle logarithm", a controllable symmetry is formed between {0 to 1} Calculation.

Here is the proof and explanation:

As we all know, the expansion of calculus equations and polynomials is based on Newton's "binomial".

(2.6.1) $(1-\eta^2)\}^{K(Z\pm S\pm N\pm 1)/t}=\{(^{KS}\sqrt{X})/\mathbf{D}_0\}\}^{K(Z\pm S\pm N\pm 1)/t}$
$=\{\mathbf{\Sigma}_{(Z\pm S\pm N-1)}(1/S)^{-1}(x_1^{-1}+x_2^{-1}+\ldots+x_S^{-1})\}^{K(Z\pm S\pm N-1)/t}$
$/\{\mathbf{\Sigma}_{(Z\pm S\pm N+1)}(1/S)^{+1}(\mathbf{D}_1^{+1}+\mathbf{D}_2^{+1}+\ldots+\mathbf{D}_S^{+1})\}^{K(Z\pm S\pm N+1)/t}$
$=\{[(1/S)^{-1}(x_1^{-1}+x_2^{-1}+\ldots+x_S^{-1})]/[(1/S)^{+1}(\mathbf{D}_1^{+1}+\mathbf{D}_2^{+1}+\ldots+\mathbf{D}_S^{+1})]\}^{K(Z\pm S\pm N\pm 1)/t}$
$=\{[(1/S)^{\pm 1}(x_1^{-1}/\mathbf{D}_1^{+1})+(x_2^{-1}/\mathbf{D}_2^{+1})+\ldots+(x_q^{-1}/\mathbf{D}_q^{+1}))]^{K(Z\pm S\pm N\pm 1)/t}$
$=(1/C_{(Z\pm S\pm N\pm 1)})^{\pm 1}[F(\cdot)/G(\cdot)]$
$=F_0(\cdot)/G_0(\cdot)$;

The same reason: the reciprocity function also holds:

(2.6.2) $(1-\eta^2)\}^{K(Z\pm S\pm N\pm 1)/t}=\{(^{KS}\sqrt{X})/\mathbf{D}_0\}\}^{K(Z\pm S\pm N\pm 1)/t}$
$=\{\mathbf{\Sigma}_{(Z\pm S\pm N-1)}(1/S)^{-1}(x_1^{-1}+x_2^{-1}+\ldots+x_S^{-1})\}^{K(Z\pm S\pm N-1)/t}$
$/\{\mathbf{\Sigma}_{(Z\pm S\pm N+1)}(1/S)^{+1}(\mathbf{D}_1^{+1}+\mathbf{D}_2^{+1}+\ldots+\mathbf{D}_S^{+1})\}^{K(Z\pm S\pm N+1)/t}$
$=\{[(1/S)^{-1}(x_1^{-1}+x_2^{-1}+\ldots+x_S^{-1})]/[(1/S)^{+1}(\mathbf{D}_1^{+1}+\mathbf{D}_2^{+1}+\ldots+\mathbf{D}_S^{+1})]\}^{K(Z\pm S\pm N\pm 1)/t}$
$=\{[(1/S)^{\pm 1}(x_1^{-1}/\mathbf{D}_1^{+1})+(x_2^{-1}/\mathbf{D}_2^{+1})+\ldots+(x_q^{-1}/\mathbf{D}_q^{+1}))]^{K(Z\pm S\pm N\pm 1)/t}$

$=(1/C_{(Z\pm S\pm N\pm 1)})^{\pm 1}[F(\cdot)/G(\cdot)]$

$=F_0(\cdot)/G_0(\cdot)$;

The length of the asymmetry of the two reciprocal functions is described by the logarithm of the circle, so that the uncertainty$F(\cdot)\neq G(\cdot)$becomes relative symmetry.

Adding the power function (time series) to the expansion of Newton's binomial $\{X\pm{}^{KS}\sqrt{\mathbf{D}}\}$ is called the calculus binomial, and it is called the unary S-order higher order calculus equation:

$\{X\pm({}^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm N\pm q)/t}=[(1-\eta^2)\cdot\{X_0\pm\mathbf{D}_0\}]^{K(Z\pm S\pm N\pm q)/t}$;

The proof is as follows:

Suppose: multi-element continuous multiplication, $\{x\}^K=(x_1^K\cdot x_2^K\cdot\ldots\cdot x_S^K)^K=(x_{1\ldots q})$ perform non-repetitive combination, introduce the group combination form, and obtain the characteristic modulus,

$(x_{01\ldots P})=(1/C_{(S\pm S\pm(N)\pm(q=-p))})^K\prod_{(S=p)}({}^S\sqrt{\mathbf{D}})^{K(Z\pm S\pm(N)-(q=-p)/t}$ (K=+1,±0±1,-1)

the average value of positive, medium and inverse functions), there are sub-items of J equation or Hermitian matrix, in calculus equation called "group combination".

here, the algebra-geometry-number theory-group theory is integrated into a whole through the logarithm of the circle, controlling the arithmetic analysis between {0,1}. In 2.1.1 Euler's product equation is closely related to Newton's binomial:

Among them: the subscript {±q=S…q} indicates the change of the multiplication form of the elements of the group combination without repeating the combination.

(2.6.3) $\{X\pm({}^{KS}\sqrt{D})\}^{K(Z\pm S\pm N\pm q)/t}=\{({}^{KS}\sqrt{X})\pm\mathbf{D}_0\}\}^{K(Z\pm S\pm N\pm q)/t}$

$=\{[A(x_{1\ldots q})^{K(Z\pm S\pm N\pm 0)/t}\pm B(x_{2\ldots q})^{K(Z\pm S\pm N\pm 1)/t}+\ldots\pm Q(x_{S\ldots q})^{K(Z\pm S\pm N\pm q)/t})+({}^{KS}\sqrt{\mathbf{D}})^{K(Z\pm S\pm N\pm q)/t}$

$=\{[(x_{1\ldots q})^{K(Z\pm S\pm N\pm(q=s-0)/t}\mathbf{D}_0{}^{K(Z\pm S\pm N+(q=S-q))/t}$

$\pm(1/C_{(Z\pm S\pm N-1)})^{-1}(x_{2\ldots q})^{K(Z\pm S\pm N+(q=S-1))/t}\mathbf{D}_0{}^{K(Z\pm S\pm N+(q=S-1))/t}+\ldots$

$\pm(1/C_{(Z\pm S\pm N-q)})^{-1}(x_{2\ldots q})^{K(Z\pm S\pm N+(q=S-1))/t}\mathbf{D}_0{}^{K(Z\pm S\pm N+(q=S-1))/t}+({}^{KS}\sqrt{\mathbf{D}})^{K(Z\pm S\pm N\pm q)/t}$

$=(1/C_{(Z\pm S\pm N\pm q)})^{-1}(x_{S\ldots q})^{-1})^{K(Z\pm S\pm N+(q=S-1))/t}\mathbf{D}_0{}^{K(Z\pm S\pm N+(q=S-1))/t}+({}^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm N-q)/t}$

$/\ \{[(1/C_{(Z\pm S\pm N\pm q)})^{+1}((\mathbf{D}_{1\ldots q})^{+1}+(D_{2\ldots q})^{+1}+\ldots+(\mathbf{D}_{S\ldots q})^{+1})+({}^{KS}\sqrt{\mathbf{D}})\}\}^{K(Z\pm S\pm N+q)/t}$

$=\{[(1/C_{(Z\pm S\pm N\pm q)})^{\pm 1}(x_{1\ldots q})^{-1}+(x_{2\ldots q})^{-1}+\ldots+(x_{S\ldots q})^{-1})]$

$/\ [(1/C_{(Z\pm S\pm N\pm q)})^{+1}((\mathbf{D}_{1\ldots q})^{+1}+(\mathbf{D}_{2\ldots q})^{+1}+\ldots+(\mathbf{D}_{S\ldots q})^{+1})]\}^{K(Z\pm S\pm N\pm q)/t}$

$=(1/C_{(Z\pm S\pm N\pm q)})^{\pm 1}[((x_{1\ldots q})^{-1}/(\mathbf{D}_{1\ldots q})^{+1})+((x_{1\ldots q})^{-1}/(\mathbf{D}_{1\ldots q})^{+1})+\ldots+((x_{1\ldots q})^{-1}/(\mathbf{D}_{1\ldots q})^{+1}))]\}^{K(Z\pm S\pm N\pm q)/t}$

$=(1/C_{(Z\pm S\pm N\pm q)})^{\pm 1}[((x_{1\ldots q})^{-1}\pm(\mathbf{D}_{1\ldots q})]^{\pm 0}+[((x_{1\ldots q})^{-1}\pm(\mathbf{D}_{1\ldots q})]^{\pm 0}+\ldots+[((x_{1\ldots q})^{-1}\pm(\mathbf{D}_{1\ldots q})]^{\pm 0}]\}^{K(Z\pm S\pm N\pm q)/t}$

$=(1/C_{(Z\pm S\pm N\pm q)})^{\pm 1}[F(\cdot)\pm G(\cdot)]$

$=\{(1-\eta^2)\cdot[F_0(\cdot)\pm G_0(\cdot)]\}^{K(Z\pm S\pm N\pm q)/t}$;

(2.6.4) $(1-\eta^2)=F(\cdot)/G(\cdot)=[(1-\eta^2)^{+1}F(\cdot)]\cdot[(1-\eta^2)^{-1}G(\cdot)]=\{0\text{ to }1\}$;

In the same way, the above formula can be extended to the level of $q\leq(S-1)$: $\{(1-\eta^2)[(x_{1\ldots q})^{-1}/(\mathbf{D}_{1\ldots q})^{+1})]\}^{K(Z\pm S\pm N\pm q)/t}$ and $\{(1-\eta^2)[(x_{1\ldots q})^{-1}\pm(\mathbf{D}_{01\ldots q})]^{\pm 0}]\}^{K(Z\pm S\pm N\pm q)/t}$ proves the reciprocity of isomorphism. The feature is a one-to-one comparison of each element of the group combination

(2.6.4) $\{(x_{1\ldots q})\}^{K(Z\pm S\pm N-q)/t}=\{(1-\eta^2)(\mathbf{D}_{01\ldots q})^{+1})\}]\}^{K(Z\pm S\pm N+q)/t}$; (1-1 correspondence of elements);

$\{(x_1)\}^{K(Z\pm S\pm N-1)/t}=\{(1-\eta^2)(\mathbf{D}_1)^{+1})\}]\}^{K(Z\pm S\pm N+qjik=1)/t}$; (1-1 combination);

$\{(x_2)\}^{K(Z\pm S\pm N-2)/t}=\{(1-\eta^2)(\mathbf{D}_2)^{+1})\}]\}^{K(Z\pm S\pm N+qjik=2)/t}$; (2-2 combination); ……;

$\{(x_q)\}^{K(Z\pm S\pm N-q)/t}=\{(1-\eta^2)(\mathbf{D}_q)^{+1})\}]\}^{K(Z\pm S\pm N+q\in qjik)/t}$; (The q-q combination is contained in the q_{jik}-q_{jik} three-dimensional space);

$t=(1-\eta^2)t_0$:

Reflecting the elements of entangled multiplication, each element has the same change principle, and their change rules can be equivalently replaced. It is called the equivalent replacement of Lorentz-Einstein reciprocity—special relativity.

(1) ,The difference in the reciprocity of power functions (time series) lies in the signs of "+, -"

There are: $\{{}^{KS}\sqrt{(x_1x_2\ldots x_S)}\}^{\mathbf{-1}}$ and $\{\mathbf{D}_0\}^{\mathbf{+1}}$ composition: $\{{}^{KS}\sqrt{(x_1x_2\ldots x_S)}\}^{\mathbf{-1}}\cdot\mathbf{D}_0{}^{\mathbf{+1}}\}^{K(Z\pm S\pm N+(q\in qjik)/t}$

Or $\{({}^{KS}\sqrt{x_1x_2\ldots x_S})^{\mathbf{-1}}\pm\mathbf{D}_0{}^{\mathbf{+1}}\}^{K(Z\pm S\pm N+(q\in qjik)/t}$; or $\{x^{-1}\pm({}^{KS}\sqrt{\mathbf{D}})^{+1}\}^{K(Z\pm S\pm N+(q\in qjik)/t}$;

It becomes the concept that the polynomial and calculus equation group combination has the same change and the same logarithm in one-to-one correspondence.

(2),Due to historical reasons $({}^{KS}\sqrt{x_1x_2\ldots x_S})^{\mathbf{+1}}$and $\{\mathbf{D}_0\}^{\mathbf{+1}}$or $\{x^{-1}\pm({}^{KS}\sqrt{\mathbf{D}})^{+1}\}^{\mathbf{\pm 1}}$ one-to-one correspondence comparison, in traditional mathematics and binomial The formula is that there is no such concept of group combination comparison. Einstein did not highlight the concept of "reciprocity" in the comparison between particle speed and the speed of light in the special theory of relativity, which caused some misunderstandings in the physics community.

(3), Calculus-the relative symmetry of the logarithm of a circle to explain the mathematical and physical phenomena of special relativity.

$$\{x^{-1}\}^{K(Z\pm(S=S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}=[(1-\eta^{2})\cdot\{\mathbf{D}_0^{+1}\}]^{K(Z\pm(S=S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t};$$

When(K=-1), $\mathbf{D}_0$ is unchanged, representing the interaction space of the measure (distance) of two mutually entangled elements, the expansion space described by the logarithm of the negative power circle at each level, and the balanced mass-space reciprocity Variety.

For example, the boundary condition $\mathbf{D}^2=F(\cdot)G(\cdot)$ is a combination of two (continuous multiplication and) entanglement groups;

(2.6.5) $\{F(\cdot)G(\cdot)\}^{K(Z\pm(S=2)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}=\{(1-\eta^{2})\mathbf{D}_0^{2}\}^{K(Z\pm(S=2)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t};$

(2.6.6) $(1-\eta^{2})=(1-\eta^{2})^{K(Z-(S=2)-(N=0,1,2)-(P)\pm(m)-(qjik))/t}(1-\eta^{2})^{K(Z+(S=2)+(N=0,1,2)+(P)+(m)+(qjik))/t}$

It reflects the synchronous change time series and circle logarithm factor of $F(\cdot)G(\cdot)$ with reciprocal relative symmetry. The entanglement and transmission of multiple particles can be deduced.

Or explain the $F(\cdot)G(\cdot)$"ghost particles" of mathematical physics, entanglement in generalized space, long-distance telecommunication transmission, electromagnetic and magnetic storms, microwave background radiation, random changing conditions of wave-particle duality, and local non-conservation of parity ,... and other natural phenomena can be described by the logarithm of the circle (positive, middle, and inverse power functions) in the space where they balance changes.

2.7. The continuity and discreteness of logarithm of circle and space and the movement of center zero point

[Proof 11] The gapless filling and quantization gap between the logarithm of the circle and the space

As we all know, the principle of calculus area calculation: divides many rectangular strips between an arbitrary curve and the axis on the plane coordinates. As the divided rectangular strips increase, the calculated rectangular area approximates the surface area. It is said thady/dx→0 is infinitely small, which is called the limit. . It is proposed that the connection of points is a line, the connection of a line is a surface, and the connection of a surface is a space. Physics often uses this limit concept to explain physical phenomena.

Can the dots fill up the space? Quantum theory often assumes that the dots are uniform, and the limit does not mean equality. So what is the space in which the gap between quanta exists? Science often brings controversy.

Using the principle of relativity, the circle logarithm $dy/dx=(1-\eta^{2})\neq 0$ is obtained by dividing the infinitesimal by the infinitesimal, which has a specific value. This example breaks through the traditional dy/dx→0 forbidden zone and reflects the impreciseness of the mathematical foundation of calculus itself. In physics, it shows the sharp contradiction between continuous gravitational space and discrete quantum space.

It is proposed that "any calculus function can be converted into a logarithm of an irrelevant mathematical model, and the arithmetic analysis is between [0 to 1]". Someone may propose: The arithmetic calculation of [0 to 1] means the calculation between the value and the value on the axis, then there is also a gap between the value and the value or the point and the point? the answer is negative.

Here, the logarithm of a circle does not necessarily emphasize a round point, a rectangular point, or other fixed points. It can be a shape composed of any element, which satisfies continuous and discontinuous, uniform and uneven, symmetrical and asymmetrical, and is called "circle logarithm (point)". In other words, the state of circle logarithm has no fixed space and boundary, and the connection between "circle logarithm (point) and circle logarithm (point)" can be a continuous space without gaps, or discrete ones with gaps. space. And the two can be described together.

In this way, the circle logarithm point surrounds the infinite circle logarithm (point) with an arbitrary curve to satisfy the gravitational non-gap multi-level continuity, and it can also satisfy the quantum dot's multi-level discreteness with gaps (approximately no gaps). Sex. In the Yang Zhenning-Mills gauge field, the NS equation of fluid mechanics, the strain energy of material mechanics, etc., a unified description of discrete and continuous is realized through the performance of the circle logarithmic boundary deformation. For example, the space is composed of curves, surfaces, elements and other boundary values and radii to form a two-dimensional and three-dimensional space (including spheres and rings). When the boundary values of curves, surfaces, elements, etc. remain unchanged, the logarithm of the circle describes their changes:

Definition 2.7.1 Planar and curved space deformation and quantization

The space deformation of plane and curved surface is the same as the "2-2 combination" of the multi-element binary S-order calculus equation. It is called the quantized plane. Among them: arbitrary boundary curve $S=2\pi R_{01}$; average radius R02; area parameter: $C_{(S\pm N\pm qjik=2)}=1/2$.

(2.7.1) $F=(1/2)\cdot\cdot$Arbitrary curve·Average radius$=(1/2)\cdot 2\pi R_{01}\cdot R_{02}$

(2.7.2) $F(x)^{K(Z\pm(S)\pm(N)\pm(P)\pm(m)\pm(qjik=2))/t}=[\sum_{(S=qjik)}(1/C_{(S\pm N\pm qjik=2)})^{K}\prod_{(qjik=2)}(R_{01}\cdot R_{02})]$

(2.7.3) $F(x)^{K(Z\pm(S)\pm(N=0,1)\pm(P)\pm(m)\pm(qjik=2))/t}=(1/2)\cdot 2\pi R_{01}\cdot R_{02}$(curved surface deformation)

$=[(1-\eta^{2})^{K(Z\pm(S)\pm(N=0,1)\pm(P)\pm(m)\pm(qjik=2))/t}(1/2)\cdot 2\pi R_{01}]\cdot R_{02}$ (curved surface deformation)

$=(1/2)\cdot 2\pi R_{01}\cdot[(1-\eta^2)^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}R_0]$(radius Variety)

$=(1/2)\cdot[(1-\eta)\cdot 2\pi R_{01}]\cdot[(1+\eta)R_0]^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$(curve and radius change linearly)

$=(1/2)\cdot[(1-\eta^2)^{-1}2\pi R_{01}]\cdot[(1-\eta^2)^{+1}R_0]^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$ (topological change of curve and radius);

The formula (2.7.3) describes the changing rules of any plane or surface space moving to a perfect circle or the center zero point. The mutual change of the plane space allows the quantized plane to be connected in two forms: continuity and discreteness.

The closed curve and the two-element group value (S=total curve circumference, two-element combination form) remain unchanged, and the area change process: the area change is reflected by the logarithm of the circle. The circle logarithmic factor describes the average change of the circle curve function of any circular surface or plane is the same as the average radius. Their change effects can be expressed by boundary curves or radius changes, which are called equivalent displacements.

Definition 2.7.2 Space deformation and quantization:The spatial deformation of three-dimensional plane and curved surface is the same as the "3-3 combination" of the multi-element ternary S-order calculus equation.

Among them: arbitrary boundary surface S=πR0122; average radius R03; volume parameter: $C_{(S\pm N\pm qjik=3)}=1/3$;

(2.7.4) $V_0=(1/3)\cdot$surface area$\cdot$average radius$=(1/3)\cdot 4\pi R_{012}{}^2\cdot R_{03}$,

(2.7.5) $F(x)^{K(Z\pm(S)\pm(N)\pm(P)\pm(m)\pm(qjik=3))/t}=[\sum_{(S=qjik)}(1/C_{(S\pm N\pm qjik=3)})^K\prod_{(qjik=3)}(R_{012}{}^2\cdot R_{03})]$

(2.7.6) $V^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik=3))/t}=(1/3)\cdot 4\pi R_{012}{}^2\cdot R_{03}$

$=(1-\eta^2)^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik=3))/t}(1/3)\cdot 4\pi R_{012}{}^2\cdot R_{03}$ (Volume deformation)

$=(1/3)\cdot[(1-\eta^2)^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}4\pi R_{012}{}^2]\cdot R_{03}$ (ball Surface deformation)

$=(1/3)\cdot 4\pi R_{012}{}^2\cdot[(1-\eta^2)^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}R_{03}]$ (radius Variety)

$=(1/3)\cdot[(1-\eta)4\pi R_{012}{}^2\cdot(1+\eta)R_{03}]^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$ (curved surface and radius change linearly)

$=(1/3)\cdot[(1-\eta^2)^{-1}4\pi R_{012}{}^2\cdot(1-\eta^2)^{+1}R_{03}]^{K(Z\pm(S)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$(topological change of surface and radius);

The formula(2.7.6) describes the change rule of any plane or surface space moving to a perfect circle or the center zero point. The mutual change of the plane space allows the quantized sphere to be connected in two forms of continuity and discreteness.

The closed surface and the triple value (S=total surface area, three-element combination) remain unchanged, and the volume change process: the volume change is reflected by the logarithm of the circle. The circle logarithm factor describes the average value of the circle surface function of any surface and the average radius change. Their effect of change can be expressed in terms of boundary area, value or radius change, which is called equivalent replacement.

Definition 2.7.3 elements-the self-consistent unified circle of time and space

Continuous and discrete elements (mass)-time and space belong to two event horizons with different attributes. Through the normalization of circle logarithm and the movement and superposition of the center zero point, there is a reciprocal symmetry and a latent infinity controlled by time series" Concentric circles" or random real infinite "parallel circles"$\{R_\Theta\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(q\in qjik))/t}=\{R_\Theta\}^{K(Z\pm S\pm N\pm P-q)/t}$, realizing the self-consistent unified circle of quality-time and space.

[Proof 12] Logarithm of circle and unified circle

The logarithm of the circle makes the continuous and discrete elements-time space become a self-consistent unified circle (concentric circles and parallel circles)

(2.7.7) $\{(R_{\Theta(1\ldots q)})^{+1})\}^{K(Z\pm S\pm N\pm P-q)/t}=\{(1-\eta^2)(D_{00}))]\}^{K(Z\pm S\pm N\pm P+qjik=0)/t}$; (0-0 correspondence);

$\{(R_{\Theta 1(1\ldots q)})^{+1})\}^{K(Z\pm S\pm N\pm P-1)/t}=\{(1-\eta^2)(D_{01}))]\}^{K(Z\pm S\pm N\pm P+qjik=1)/t}$; (1-1 combination);

$\{(R_{\Theta 2(1\ldots q)})^{+1}\}^{K(Z\pm S\pm N\pm P-2)/t}=\{(1-\text{属于}\ \eta^2)(D_{02}))]\}^{K(Z\pm S\pm N\pm P+qjik=2)/t}$(2-2 combination);……;

$\{(R_{\Theta q(1\ldots q)})^{+1})\}^{K(Z\pm S\pm N\pm P-q)/t}=\{(1-\eta^2)(D_{0q}))]\}^{K(Z\pm S\pm N\pm P+q\in qjik)/t}$; (The q-q combination is contained in the q_{jik}-q_{jik} three-dimensional space);

$t_\Theta=(1-\eta^2)t$:

The formula (2.7.7) reflects any closed element (mass) space-time, under the condition of the total area (total perimeter) unchanged, through the movement of the topological and central zero point to form a time series control, changing between {0 to 1} The infinite "concentric circles" or "parallel circles".

To sum up: the self-consistent unified standard of the logarithm of the circle in the real world reflects that the discrete quantum theory and entangled relativity belong to different attributes of "high-dimensional and low-dimensional" and "continuous and discrete" respectively. It is difficult Reconciliation produces sharp contradictions. A self-aligned unified circle is obtained through the process of probability-topology-center zero movement of the logarithm of the circle.

(1). The circle logarithm point is called the circle logarithm point with the circle area and volume of the circle points of different sizes and real infinite levels, and the infinitesimal logarithm is used to approximate to fill any space, and the numerical value of the circle logarithm of the discrete calculus is changed. , Satisfy quantized calculation and arithmetic analysis.

(2) The logarithmic points of the curve area and the volume of the curved surface with different potential infinite levels, sizes and shapes, and the logarithmic points of the infinitely small boundary deformation circle in a continuous manner fill in any space, and the value of the logarithm of the entangled calculus circle Change, satisfy gravitational calculation and arithmetic analysis.

2.8, Euler's formula and central zero

Euler's formula normalizes the logarithm of the circle to obtain the "concentric circles" where the logarithm centers of the isomorphic circles are superimposed. Any order (level, calculus) reflecting the group combination can eliminate the inconsistency of the combined repetition rate and converted to elements. The symmetric probability linear distribution is converted to a symmetric circle logarithm, which satisfies the symmetrical linear distribution of the circle logarithm factor. This point is called the central zero point.

Definition 2.8.1 Central zero point: the linear function divides its average value to obtain the central zero point, and the sum of the logarithmic factors of the two circles measured by the central zero point is the same.

[Proof 13]Center zero value

(2.8.1) $$(1-\eta_{0(1\ldots q)}^{2})^{K(Z\pm S\pm N\pm P\pm(q=1)/t}=\{(x_H)/(x_{0(1\ldots q)})^{+1})\}^{K(Z\pm S\pm N\pm P\pm(q=1)/t}=\{1/2\};$$

(2.8.2) $$\sum_{(s=-q)}(1-\eta_{0(1\ldots q)}^{2})^{K(Z\pm S\pm N\pm P-1)/t}+\sum_{(s=-q)}(1-\eta_{0(1\ldots q)}^{2})^{K(Z\pm S\pm N\pm P+1)/t}=0;$$

The formula (2.8.1) (2.8.2) reflects that the central zero point is located at the centered linear function (1/2), and the value between the central zero point and the boundary has asymmetry, which becomes relative symmetry through the logarithm of the circle, which is called topology Round logarithm. The logarithmic factor of the circle has a center zero and the sum of the logarithmic factors of the two measured circles are the same respectively. That is to say, for any dimensional calculus function, there is a center zero value and a circle position (1/2). There is a circle logarithmic factor that can be distributed relatively symmetrically. According to this principle, the root element of the calculus equation can be solved.

This may be a proof of a postman's problem: to find the central zero point of a city, the postman starts from the central zero point and travels around the city with the same time. It can also be adapted to the projection and mapping of three-dimensional space.

2.9. Discussion:

The above **[Proof 1]-[Proof 13]** involved a series of mathematics problems of the century. It shown to us: these mathematics problems have close relationship of mutual dependence, mutual restraint, and mutual involvement. Any special and influential mathematical problem, is difficult to solve in a single and complete way (including and recognized solutions: such as the research of the Fermat's Last Theorem of Wiles in the United Kingdom and the Poincaré topology of Perelsiman in Russia, all of which are incomplete, not thoroughly solved). In addition, no better and novel mathematical methods have been found. This is also the reason why many mathematicians have experienced so many explorations that they cannot be satisfactorily solved.

The circle logarithm proves convincingly and objectively that the current mathematical research can only make progress when a series of mathematical problems are dealt with at the same time. For example, in the proof of the circle logarithm, the mathematical problems involved in each other include:

(1), The "Berman-Hartmanis reciprocity theorem" (F(·)G(·)=1) makes the uncertainty F(·)≠G(·) a relative symmetry through the logarithm of the circle.

$$(1-\eta^2)^{\pm1}=F(\cdot)/G(\cdot)=(1-\eta^2)^{-1}F(\cdot)/(1-\eta^2)^{+1}G(\cdot)$$
$$=(1-\eta^2)^{-1}/(1-\eta^2)^{+1}=(1-\eta^2)^{-1}\cdot(1-\eta^2)^{+1}=\{0\text{ to }1\};$$

(2),"P=NP complete problem" and "normalization problem": Prove simple polynomials and uncertain complex polynomials$P=\{X\}^{k(Z\pm S\pm(N=1)\pm(P=1)\pm(q=1)/t}\neq NP=\{X\}^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}$, through the irrelevant calculation model, the complete identity is obtained The calculation time and normalization of the round logarithm of the structure.

$$[(1-\eta^2)\cdot\{X_0\}]^{k(Z\pm S\pm(N=J)\pm(P=J\pm(q=J)/t}=\longrightarrow[(1-\eta^2)\cdot\{X_0\}]^{k(Z\pm S\pm(N=1)\pm(P=1\pm(q=1)/t};$$
$$[(1-\eta^2)]^{k(Z\pm S\pm(N=J)\pm(P=J\pm(q=J)/t}=\longrightarrow[(1-\eta^2)]^{k(Z\pm S\pm(N=1)\pm(P=1)\pm(q=1)/t};$$

(3),"Hodge Conjecture": The power functions of algebra clusters are simple integer expansions. It overcomes the traditional "a fixed value is a low division and multiplier value, and the integer expansion cannot be obtained." At the same time, the uncertainty of quantum mechanics is converted into relative certainty through the logarithm of the circle. That is, the "group combination" complex body is divided by the "group combination" unit body to obtain an integer expansion, which satisfies the arithmetic analysis of "zero error (ε=0)".

$$[\{X_0\}]^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}/\{X_0\}]^{k(Z\pm S\pm(N=1)\pm(P=1)\pm(q=1)/t}=k(Z\pm S\pm(N=J-1)\pm(N=J-1)\pm(q=J-1)/t;$$

(4), The center of "Riemann ζ function" and "Goldbach's conjecture" is relatively symmetrical zero {1/2}, Riemann ζ function is called "abnormal zero", and it has nothing to do with the logarithm of the circle of the mathematical model, ensuring an arbitrary function The relative symmetry of the two sides with the abnormal zero point (1/2) as the center.

$$(1-\eta^2)^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}=\{0,1/2,1\}^{k(Z\pm S\pm(N=J)\pm(N=J)\pm(q=J)/t};$$

$$\Sigma_{(S-N-q)}(1-\eta^2)^{k(Z\pm S-(N=J)\pm(P=J)\pm(q=J)/t}=\Sigma_{(S+N+q)}(1-\eta^2)^{k(Z\pm S-(N=J)\pm(P=J)\pm(q=J)/t};$$

where：K=(+1,±0±1,-1),

K=(+1) means that the central zero point is relatively symmetric, and the abnormal zero point of the Riemann zeta function is $\{1/2\}^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}$;

K=(-1)Goldbach's conjecture that the abnormal zero point is an even number $\{1/2\}^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}$;

K=(±0)，$\{0\}^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}$ represents the balance of two (between positive and negative) relatively symmetric functions, Conversion

K=(±1)，$\{1\}^{k(Z\pm S\pm(N=J)\pm(P=J)\pm(q=J)/t}$represents the balance, rotation and high-dimensional vortex of two relatively symmetric functions .

(5), The "Langlands Program" (including the new generation of supercomputer algorithm theory) is seen as a "high-dimensional extension of the category theory", trying to find an analytic function so that the analytic characteristics of this function can fully reflect the object of number theory The group combination of {X} and the algebraic-geometric topological characteristics can be performed without specific element content—the function characteristics of the logarithm of the circle. The arithmetic analysis between [0 to 1] meets the requirements of the Langlands Program.

$$W=(1-\eta^2)^{k(Z\pm S\pm(N)\pm(P)\pm(q)/t}W_0;$$

In the formulaW, W_0 respectively represent event horizon, arbitrary unknown, and known event. k(Z±S±(N)±(P)±(q)/t represents a shared time series distributed in various regions, levels, calculus, events, etc.

(6), Others such as "Abel-Ruffini Impossibility Theorem" and "Hilbert's 13th Problem (The resolution of the 7th degree equation is one-dimensional quadratic (even function) and one-dimensional cubic equation (odd function)) ", "Fermat's Last Theorem", "Bell's Inequality", "Goldbach's Conjecture $\{1/2\}^{-k(Z\pm S\pm(N)\pm(P)\pm(q)/t}=\{2\}^{+1}=\{1+1\}^{+(Z\pm S\pm(N)\pm(P)\pm(q)/t}$"high-dimensional-low-dimensional topology $\{q\}\in\{q_{jik}\}$, path integral (time series),gauge field (including unified calculation of gravitational equation, electromagnetic equation, space equation, nuclear force equation, etc.), NS equation (discrete infinite group combination deformation calculation)", etc., all involve "independent mathematical model-circle logarithm "The proof of the unified thinking, there are more than 20 articles published in domestic and foreign journals.

3. High-order multivariable calculus equation and logarithm of circle

So far, high-order calculus equations have not been satisfactorily solved except for discrete statistical calculations and entangled logarithmic calculations. In particular, the "neural network engine" with multi-element multiplication involves the analysis of high-order multivariable calculus equations, which are being explored in many countries.

The internationally recognized method for solving high-order multivariable calculus equations:

(1). It must be closely related to the polynomial coefficients, with addition, subtraction, multiplication, and division as the main calculation symbol.

(2). It must be arithmetically analyzed in periodic {0 to 1} through time series control.

Here, we will explain the new concepts of "characteristic modulus" and "circle logarithm", which are the group combination of rearranged calculus and the logarithm of the base of the circular function, and establish new definitions and theorems to satisfy root finding and analysis.

3.1, Calculus and the concept of group combination

Traditional calculus (S) unknown variables $\{X\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=\prod_{(i=S)}\{x_1x_2\dots x_q\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$ uses a fixed value (e=2.71828...) Euler logarithm as the base logarithm to form a power function exp, which cannot satisfy the calculus power function The integer expansion and the stability of the controllable time series are congenital defects: the infinitesimal error analysis is still ($\varepsilon\neq0$), and the limit ($\varepsilon\to0$) is not rigorous. Some people call it the "path integral problem", which is difficult to solve the contemporary one. A series of mathematics problems of the century. In order to overcome the defects of calculus, the introduction of "group combination-center zero" perfectly obtains the concept of ε=0 "zero error" and establishes the definition and theorem of circle logarithm, and then recalculates the calculus, which can overcome the above-mentioned defects of traditional calculus.

Definition 3.1.1 Calculus unit dx: Calculus is the reciprocal group combination average value for the calculus unit body.

(3.1.1) $$dx=(\sqrt[KS]{x_1x_2\dots x_q})=\{x_0\}^{K(Z\pm S\pm(q=1))/t}=\{x_0\}^{K(Z\pm S\pm(q=0))/t};$$

Arbitrary finite element calculus equation, the first coefficient A=1, the average value

$\{x_0\}^{K(Z\pm S\pm(q=1))/t}=\{x_0\}^{K(Z\pm S\pm(q=0))}$ The rise and fall of the calculus order value of /t reflects "the iterative increase and decrease of the group combination average value", and still maintains the "group combination average value $\{x_0\}$ invariance" feature. Therefore, the iteration of calculus order value is the change of the group combination of various non-repeated combinations, which is not available in traditional calculus.

Definition 3.1.2 The characteristic mode of the calculus equation and the circle logarithm share the power function (time series) to satisfy the integer expansion.

(3.1.2) $\{X\}^{K(Z\pm S\pm(N=j)\pm(p=j)\pm(q=j)/t}/\{X\}^{K(Z\pm S\pm(N=0)\pm(p=0)\pm(q=0)/t}$

$=\{\prod_{(S=q)}(^{KS}\sqrt{(x_1x_2\dots x_p)}\}^{K(Z\pm S\pm(N=j)\pm(p=j)\pm(q=j)/t}/\{^{KS}\sqrt{(x_1x_2\dots x_q)}\}^{K(Z\pm S\pm(N=1)\pm(p=1)\pm(q=1)/t}$

$=K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm(q\pm j)/t$;

Definition 3.1.3 Differential: (S) The total elements of the elements remain unchanged, and the reduced order of iteration (N-j)±(P-j)±(q-j): Represents the differential order(N=-j), the level term(p=-j),(q=-j) represents the reduction in the number of group combination terms and element combination forms, which become first-order, second-order, and higher-order differential equations.

(3.1.3) $d^{(J)}f(x)^{K(Z\pm S\pm(N)\pm(p)\pm(q)/t}=\{x_0\}^{K(Z\pm S\pm(N=0)\pm(p=0)\pm(q=0)/t}/\ \{x_0\}^{K(Z\pm S\pm(N=\pm j)\pm(p=\pm j)\pm(q=+j)/t}$

$=\{x_0\}^{K(Z\pm S\pm(N=-j)\pm(p=-j)\pm(q=-J)/t}$;

Definition 3.1.4 Integral: (S) The total elements of the elements remain unchanged, and the upgrade order(N+j)±(P+j)±(q+j) integration order(N=+j)level term(p=+j),(q=+j) represents the increase in the number of group combination items and element combination form, which is reduced to a zero-order integral equation.

(3.1.4) $\int^{(J)}f^{(j)}(x)^{K(Z\pm S\pm(N=-j)\pm(p=-j)\pm(q=-j)/t}d^{(J)}x=\{x_0\}^{K(Z\pm S+(N-J)+(p-J)+(q-J)/t}\cdot\{x_0\}^{K(Z\pm S\pm(N+J)\pm(p\pm J)\pm(q+J)/t}$

$=\{x_0\}^{K(Z\pm S\pm(N=0)\pm(p=0)\pm(q=0)/t}$;

Definition 3.1.5 The combined calculus symbol is converted into a powerfunction:

(3.1.5) $d^{(j)}f(x)\cdot\int^{(j)}f(x)d^{(j)}x=\{x_0\}^{K(Z\pm S\pm(N-j)\pm(p-j)\pm(q-J)/t}\cdot\{x_0\}^{K(Z\pm S\pm(N+j)\pm(p+j)\pm(q+J)/t}$

$=\{x_0\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm(q\pm j))/t}$;

Definition 3.1.6 Calculus is expressed in a time series shared with characteristic modules and logarithms of circles

(3.1.6) $\{x\}^{K(Z\pm S\pm(N-j)\pm(p-j)\pm(q-j))/t}\cdot\{x\}^{K(Z\pm S\pm(N+j)\pm(p+j)\pm(q+j))/t}$

$=[(1-\eta^2)^{-1}\{x_0\}]^{K(Z\pm S\pm(N-j)\pm(p-j)\pm(q-j))/t}\cdot[(1-\eta^2)^{+1}\{x_0\}]^{K(Z\pm S\pm(N+j)\pm(p+j)\pm(q+j))/t}$

$=[(1-\eta^2)\{x_0\}]^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm(q\pm j))/t}$;

3.2、Single variable of calculus and multivariable of calculus

Definition 3.2.1 Single variable of calculus and multivariable of calculus are manifested in the difference of calculus order value, which is the "stride" of characteristic modulus or group combination. On the surface, it seems that the single variable of calculus and the multivariable mean of calculus have similarities and different connotations. Single variable calculus is not suitable for multivariate analysis of calculus. See the difference between the third and fourth differential and integral of one yuan:

Definition 3.2.2 Calculus symbol and power function

Take the four-element combination as an example $x^4=x_1x_1x_1x_1$; $x^4=x_1x_2x_3x_4$; ; combination coefficient (1:4:6:4:1)

Suppose:

The first-order differential unit:$dx=x'=\{^{KS}\sqrt{(x_1x_2\dots x_p)}\}^{K(Z\pm S\pm(N=-1)\pm(p=-1)\pm(qjik=-1))/t}$;

First-order integral unit:$\int x'dx=\{^{KS}\sqrt{(x_1x_2\dots x_p)}\}^{K(Z\pm S\pm(N=-1+1=0)\pm(p=-1+1=0)\pm(qjik=-1+1=0))/t}$;

Second-order differential unit:.$\iint x''dx=\{^{KS}\sqrt{(x_1x_2\dots x_p)}\}^{K(Z\pm S\pm(N=-2+2=0)\pm(p=-2+2=0)\pm(qjik=-2+2=0))/t}$;

Third-order differential unit:$\iiint x''dx=\{^{KS}\sqrt{(x_1x_2\dots x_p)}\}^{K(Z\pm S\pm(N=-3+3=0)\pm(p=-3+3=0)\pm(qjik=3+3=0))/t}$;

The combined elements of the high-dimensional group are condensed in the low-dimensional triplet generator space,$\{q\}^{K(Z\pm S\pm(N=-j)\pm(q=j))/t}\in\{q_{jik}\}^{K(Z\pm S\pm(N=-j)\pm(q=jik))/t}$;

Unary quartic$Ax^4\pm Bx^3+Cx^2\pm Dx+\mathbf{D}=(x\pm{}^4\sqrt{\mathbf{D}})^4$ reflecting the difference between single variable and multivariate in traditional calculus;

(1), single variable（$x^2=x_1x_1$，$x^3=x_1x_1x_1$，$x^4=x_1x_1x_1x_1$）;

Differential: If the reduction is from three to two times: $d(x_0^3)=d(x_1^3)=(1/2)x_1^2$;

Integral: If the upgrade is three to four times: $\int(x^3)dx=\int(x_1^3)dx=(1/4)x_1^4$;

(2) Multivariate(S=4),($x^4=x_1x_2x_3x_4$); the change order is the group combination item order (level) iteration.

Differential: The order reduction is "3-3 group combination average$\{x_0^3=\{x_0'''\}\}$"→"2-2 group combination average $\{x_0^2=\{x_0''\}\}$"→"1-1 group combination Average $\{x_0^1=\{x_0'\}\}$",

Such as: $\{x_0'''\}=\{(1/4)[(x_1x_2x_3)+(x_1x_2x_4)+(x_1x_3x_4)+(x_2x_4x_3)]\}^{K(Z\pm S\pm(N=-j)\pm(p=j)\pm(q=3))/t}$

$\rightarrow\{x_0''\}=\{(1/6)[(x_1x_2)+(x_1x_3)+(x_1x_4)+(x_2x_3)+(x_2x_4)+(x_3x_1)]\}^{K(Z\pm S\pm(N=-j)\pm(p=j)\pm(q=2))/t}$;

$\rightarrow\{x_0'\}=(1/4)[(x_1)+(x_2)+(x_3)+(x_4)]^{K(Z\pm S\pm(N=-j)\pm(p=j)\pm(q=1))/t}$;

Integral: The promotion is "3-3 group combination average $\{x_0^3\}$"→"4-4 group combination average $\{x_0^4\}$".

Such as: $\int\{x_0^3dx\}=\int(1/4)[(x_1x_2x_3)+(x_1x_2x_4)+(x_1x_3x_4)+(x_2x_4x_3)]dx$"

$\rightarrow$"$\{x_0^4\}=[(x_1x_2x_3x_4)]=[(1-\eta^2)\{x_0\}]^4$";

Definition 3.2.3 The order and normalization of the circle logarithm

Because of the difference in order between the group combination corresponding to the logarithm of the circle and the characteristic mode (group combination average). Through the isomorphism and normalization of the logarithm of the circle, so that

(3.2.1) $d^{(3)}(1-\eta^2)^3\rightarrow d^{(2)}(1-\eta^2)^2\rightarrow d^{(1)}(1-\eta^2)^1=\rightarrow d^{(1)}(1-\eta^2)^1$;

(3.2.2) $\iiint(1-\eta^2)d^{(3)}x\rightarrow\iint(1-\eta^2)d^{(2)}x\rightarrow\int(1-\eta^2)d^{(1)}x$;

$\rightarrow(1-\eta^2)^{K(Z\pm S\pm(N=-0)\pm(p=0)-(q=0))/t}$ (original function. Zero-order calculus);

$=\rightarrow(1-\eta^2)^{K(Z\pm S\pm(N=-0)\pm(p=0)-(q=1))/t}$; (the second term of the zero-order calculus equation)

That is to say, $(1-\eta^2)$ has the gauge invariance of time calculation isomorphism consistent in calculus, and divides the total elements of the group combination with the respective group combination as the base to ensure the integer expansion of the circle logarithm. The latter is a fixed value(e^x)、(exp)Euler logarithm base logarithm e=2.71828182845904523536…。 $d(e^x)=(e^x)$; $\int(e^x)dx=(e^x)$, the obtained power function cannot be expanded in integers, and its limit statement is unstable. The principle of relativity still has a certain value for infinitesimals than infinitesimals. It must be equal to zero, so that calculus can only approximate approximate calculations.

Definition 3.2.4 Expansion of the calculus equation: Take the four-order calculus equation of one variable (S=4) as an example:

Let: $d^4(x\pm{}^4\sqrt{\mathbf{D}})^4=(1/4)(x\pm{}^4\sqrt{\mathbf{D}})^3=(1/4)(x\pm{}^4\sqrt{\mathbf{D}})'''=[(1-\eta^2)(x_0\pm\mathbf{D}_0)]^{K(Z\pm(S=4)\pm(N=-3)}$;

$d^3(x\pm{}^4\sqrt{\mathbf{D}})^3=(1/6)(x\pm{}^4\sqrt{\mathbf{D}})^2=(1/6)(x\pm{}^4\sqrt{\mathbf{D}})''=[(1-\eta^2)(x_0\pm\mathbf{D}_0)]^{K(Z\pm(S=4)\pm(N=-2)}$;

$d^2(x\pm{}^4\sqrt{\mathbf{D}})^2=(1/4)(x\pm{}^4\sqrt{\mathbf{D}})^1=(1/4)(x\pm{}^4\sqrt{\mathbf{D}})'=[(1-\eta^2)(x_0\pm\mathbf{D}_0)]^{K(Z\pm(S=4)\pm(N=-1)}$;

$d^0[Ax^4\pm Bx^3+Cx^2\pm Dx+{}^4\sqrt{\mathbf{D}}]^0=(x\pm{}^4\sqrt{\mathbf{D}})^0=[(1-\eta^2)(x_0\pm\mathbf{D}_0)]^{K(Z\pm(S=4)\pm(N=-0)}$;

Definition 3.2.5 Variations of the power function of the calculus equation:

(3.2.3) $d^4(x\pm{}^4\sqrt{\mathbf{D}})^4=x^4\pm Bx_0'''+Cx_0''\pm Dx_0'+({}^4\sqrt{\mathbf{D}})^0$

$=x^{K(Z\pm(S=4)\pm(N=-0)\pm(p=0)-(q=0))/t}\pm Bx^{K(Z\pm(S=4)\pm(N=-1)\pm(p=-1)\pm(q=-1))/t}+Cx^{K(Z\pm(S=4)\pm(N=-2)\pm(p=-2)\pm(q=-2))/t}$

$\pm Ex^{K(Z\pm(S=4)\pm(N=-3)\pm(p=-3)\pm(q=-3))/t}+({}^4\sqrt{\mathbf{D}})^{K(Z\pm(S=4)\pm(N=+0)\pm(p=+0)\pm(q=0))/t}$

$=[(1-\eta^2)(x_0\pm\mathbf{D}_0)]^{K(Z\pm(S=4)\pm(N=-0,1,2,3)\pm(q))/t}$;

The formula (3.2.3) indicates that the dimension (total elements S=4) of the calculus equation is unchanged during the change (iteration) of the order value of the calculus equation, the average form of the group combination remains unchanged, and the value (power function) changes.

Definition 3.2.6 Traditional Calculus Univariate Definite Integral

Traditional calculus single variable definite integral is easy to find in integration: $\int_a^b x^{(N-1)}dx=((1/3)X^3|_a^b)$; but it is not suitable for multivariate calculus. The definite integral and definite differentiation of the characteristic module and the logarithm of the circle are manifested in the power function adding a function factor (±(m)=a-b); it means that the element itself changes and evaluates in the upper and lower interval of [a to b].

(3.2.4) $\int_a^b x^{(S-1)}dx=(1-\eta^2)\cdot\{x_0^S\}|_a^b=(1-\eta^2)\cdot[\{x_0^S\}^a-\{x_0^S\}^b]$

$=(1-\eta^2)\cdot\{X\}^{K(Z\pm(S=4)\pm(N=-0,1,2,3)\pm\underline{(m=a/b)}\pm(q))/t}$;

3.3. Change the calculus symbol to a power function

The reorganized calculus is called the new calculus, which involves any finite (S) elements in the infinite (Z) of the number-shape-clustering set, which is a combination set that does not repeat under the closed automorphic condition. The traditional concept of calculus and symbolic representation (infinitesimal/infinitesimal: dy/dx) can no longer be adapted.

The concept of reorganizing calculus into a "group combination" of regions, levels, and multi-media states is a novel calculus equation. The calculus symbol is the power function $K(Z)/t=K(Z\pm S\pm Q\pm N\pm P\pm q)/t$; properties: (K=+1,±1±0,-1), including logic algebra Symbols such as "multiply and add" have been expanded into symbols for the four arithmetic operations. Differential $dx=x^{\mathbf{(N=-1)}}$; Integral $\int dx=x^{\mathbf{(N=+1)}}$; The above definition is only suitable for single variable of calculus, not multivariable of calculus.

Unknown element combination item:

$\{X\}^{K(Z\pm S\pm Q\pm N\pm P-q)/t}=\sum_{(i=S)}\prod_{(i=p)}\{x_1x_2x_3\ldots x_p\}^{K(Z\pm S\pm Q\pm N\pm P-q)/t}$;

Known function combination items:

$\{\mathbf{D}\}^{K(Z\pm S\pm Q\pm N\pm P+q)/t}=\sum_{(i=S)}\prod_{(i=p)}\{\mathbf{D}_1\mathbf{D}_2\mathbf{D}_3\ldots\mathbf{D}_p\}^{K(Z\pm S\pm Q\pm N\pm\pm P+q)/t}$;

Average value of negative power function: $\{X_0\}^{K(Z\pm S\pm Q\pm N\pm P\pm q)/t}=\sum_{(i=S)}(1/C_{(S\pm p)})^{-1}\prod_{(i=p)}\{x_1x_2x_3\ldots x_p\}^{K(Z\pm S\pm Q\pm N\pm P-q)/t}$;

Average value of positive power function:

$\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm N\pm P\pm q)/t}=\sum_{(i=S)}(1/C_{(S\pm p)})^{+1}\prod_{(i=p)}\{\mathbf{D}_1\mathbf{D}_2\mathbf{D}_3\ldots\mathbf{D}_p\}^{K(Z\pm S\pm Q\pm N\pm P+q)/t}$;

Average value of neutral function:

$\{X_0\}^{K(Z\pm S\pm Q\pm N\pm P\pm q)/t}=\sum_{(i=S)}(1/C_{(S\pm N\pm p)})^{-1}\prod_{(i=p)}\{x_1x_2x_3\ldots x_p\}^{K(Z\pm S\pm Q\pm N\pm P\pm q)/t}$;

Regularization combination coefficient:

$(1/C_{(S\pm p)})=(P+1)\cdot(P-0)\cdot\ldots\cdot3\cdot2\cdot1!\ /\ (S+0)\cdot(S-1)\cdot\ldots\cdot(S-P)!$

Power function expansion:

$\{X_0\}^{K(Z)/t}/\{X_0\}^{K(1)/t}=K(Z)/t=K(Z\pm S\pm Q\pm N\pm q)/t$; (Natural integer expansion , Can be increased or decreased due to different regions, levels, and multi-media states);

Zero-point circle logarithm:

$(1-\eta^2)^{K(Z)/t}=\{0,1/2,1\}^{K(Z)/t}$; (called "system" front end, center Symmetry end, and back end value);

$(1-\eta^2)^{K(Z)/t}=\{1/2\}^{K(Z)/t}$; (called central zero point, with Functions of balance, conversion and limit);

$(1-\eta^2)^{K(Z)/t}=\{0,或\ 1\}^{K(Z)/t}$; ; (called "system", Corresponding to the two-terminal characteristic mode);

$(1-\eta^2)^{K(Z)/t}=\{0,到\ 1\}^{K(Z)/t}$; (called "Potential energy, position value" round logarithmic factor position value);

Relative symmetry of circle logarithm:

$\sum_{(S=+q)}\{+\eta_1+\eta_2+\ldots+\eta_q\}^{K(Z)/t}=\sum_{(S=-q)}\{-\eta_1-\eta_2-\ldots-\eta_q\}^{K(Z)/t}$;

Circle logarithm change sign:

$(1-(+\eta)^2)^{+(Z)/t}=(1-(-\eta)^2)^{-(Z)/t}$; (the circle logarithm factor is called the power function factor synchronization) ;

Logarithm of the unified circle:

$(1-\eta^2)^{K(Z)/t}=[(1-\eta_H{}^2)(1-\eta_\omega{}^2)(1-\eta_T{}^2)]^{K(Z)/t}=\{0\text{ to }1\}^{K(Z)/t}$;

The logarithm of a circle and the reciprocity of characteristic modules:

(3.3.1) $\{X\}^{K(Z\pm S\pm Q\pm N\pm S\pm P\pm q)/t}=\{X\}^{K(Z\pm S+Q+N+P+q)/t}\cdot\{X\}^{K(Z\pm S\pm Q-N-P-q)/t}$;

(3.3.2) $\{X_0\}^{K(Z\pm S\pm Q\pm N\pm S\pm P\pm q)/t}=\{X_0\}^{K(Z\pm S+Q+N+P+q)/t}\cdot\{X_0\}^{K(Z\pm S\pm Q-N-P-q)/t}$;

(3.3.3) $(1-\eta^2)^{K(Z\pm S\pm Q\pm N\pm S\pm P\pm q)/t}=(1-\eta^2)^{K(Z\pm S+Q+N+P+q)/t}\cdot(1-\eta^2)^{K(Z\pm S\pm Q-N-P-q)/t}$;

Logarithmic expansion of circles:

(3.3.4) $(1-\eta^2)^{K(Z)/t}=(1-\eta^2)^{K(Z\pm S\pm(N)\pm(p)\pm(q=0)/t}+(1-\eta^2)^{K(Z\pm S\pm(N)\pm(p)\pm(q=1))/t}+\ldots$
$+(1-\eta^2)^{K(Z\pm S\pm(N)\pm(p)\pm(q=2)/t}+\ldots+(1-\eta^2)^{K(Z\pm S\pm(N)\pm(p)\pm(q=J)/t}$
$=\{0\ 到\ 1\}^{K(Z)/t}$;

Calculus multivariate equation expansion:

(3.3.5) $\{X\}^{K(Z)/t}=\{X\}^{K(Z\pm S\pm(N=\pm0)\pm(p)\pm(q=0)/t}+\{X\}^{K(Z\pm S\pm(N=\pm1)\pm(p)\pm(q=1)/t}+\ldots+\{X\}^{K(Z\pm S\pm(N=\pm j)\pm(p)\pm(q=J)/t}$
$=[(1-\eta^2)\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=\pm0)\pm(p)\pm(q=0)/t}+[(1-\eta^2)\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=1)\pm(p=1)\pm(q=1)/t}+\ldots$
$+[(1-\eta^2)\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=\pm2)\pm(p)\pm(q=2)/t}+\ldots+[(1-\eta^2)\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=J)\pm(p=J)\pm(q=J)/tt}$
$=[(1-\eta^2)\{\mathbf{D}_0\}]^{K(Z\pm S\pm Q\pm N\pm P\pm q)/t}$;

Calculus equation domain value:

(3.3.6) $[(1-\eta^2)\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=\pm j)\pm(pj)\pm q)/t}=\{0\text{ to }(1/2)\text{ to }1\}\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm N\pm(P)\pm q)/t}$;

The formula (3.3.5) is a calculus equation, which can be written as (N=±0), (N=±1), (N=±2), …, (N=±J). ±0,1,2,3,...J) integral expansion of the calculus equation, also called "unitary matrix" and "J matrix".

The calculus-circle logarithm equation reflects the known number of elements (S),the characteristic modulus$\{\mathbf{D}_0\}$and the boundary condition**D**. Through the independent mathematical model of the circle logarithm$(1-\eta^2)$, arithmetic can be performed between {0 to 1} Chemical analysis and solution.

3.4. The coefficients of calculus equations and group combination coefficients:

Under the condition of closed automorphism, in the combination of calculus polynomial elements, the combination coefficients of the subterm (+P) forward term sequence (-P) and reverse term sequence (-P) are the same. The combination coefficient of calculus satisfies the symmetrical distribution of regularization coefficient and conforms to the Yang Hui-Pascal triangle rule.

Definition 3.4.1 The relationship between the combination coefficient$C_{(S\pm p)}$ of the calculus equation and the coefficient of the calculus equation **(A, B, C,...)**:

(3.4.1)**A**=1; $(D_0)^0=A/C_{(S\pm0)}$; $C_{(S\pm0)}=1$;

Definition 3.4.2 First-order calculus coefficient

(3.4.2) $\mathbf{B}=(1/S)^{+1}(D_1{}^{+1}+D_2{}^{+1}+\ldots+D_q{}^{+1})^{+1}$; ; $(D_0)^1=B/C_{(S\pm1)}$; $C_{(S\pm1)}=S$;

Definition 3.4.3 second-order calculus coefficients

(3.4.3)$\mathbf{C}=\sum_{(i=S)}(1/C_{(S\pm2)})^{+1}\prod_{(i=2)}\{(D_1D_2{}^{+1}+\ldots+D_qD_1{}^{+1})^{+1})\}^{+1}$;

$(D_0)^2=C/C_{(S\pm2)}$; $C_{(S\pm2)}=S(S-1)/2$; ...

Definition 3.4.4J-order calculus coefficient

(3.4.4)$\mathbf{P}=\sum_{(i=S)}(1/C_{(S\pm2)})^{+1}\prod_{(i=p)}(D_1D_q{}^{+1}+\ldots+D_qD_2\ldots D_1{}^{+1}))^{+1}$;

$(D_0)^p=P/C_{(S\pm p)}$; $C_{(S\pm p)}=(S-0)(S-1)\ldots(S-p)!/(p+1)\ldots 3\ 2\ 1!$;

Coefficients **A, B, C,..., P** include changes in levels and calculus order values. In calculus equations, they also include combination items (function averages), strides between levels or calculus order values.

The reciprocal symmetry of the regularization coefficients: (the combination coefficient of the forward **P** term of the function = the combination coefficient of the reverse **P** term) is easy to prove.

(3.4.5) $|(1/C_{(S\pm(N\pm0)\pm(p\pm0)\pm q)})^{\pm1}| = |(1/C_{(S\pm(N\pm0)\pm(p\pm0)-q)})^{-1}| = |(1/C_{(S\pm(N\pm0)\pm(p\pm0)+q)})^{+1}|$;

The combined sum of calculus regularization coefficients: the computer is called a qubit.

(3.4.6) $\sum_{(i=S)}C_{(S\pm p)}=\{2\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$;

This mathematical combination relationship establishes a close relationship between traditional calculus concepts and symbols, as well as logical algebra concepts and symbols, and provides a unified description of novel calculus equations. Satisfying the integer expansion of any calculus equation has become a reliable, complete and unified mathematical foundation for the accurate solution of calculus.

3.5. Order and group combination of calculus equation (item order)

Differential (level):$dx=({}^{KS}\sqrt{}(x_1x_2x_3\ldots x_S)^{(N-1)}=x^{(N-1)}$; N=-J, item order reduction(P=-J),(q=-J),

Integral (level): $\int dx=({}^{KS}\sqrt{}(x_1x_2x_3\ldots x_S)^{(N+1)}=x^{(N+1)}$; N=+J, item order increases(P=+J),(q=+J),

Calculus can also be renamed "level equation". Becomes a "function without derivative". Each item sequence represents the topological "position value, potential energy, and topological space sequence" where the group combination element is located. Original function (N=±0)±(p±0)±(q±0); first-order calculus function (N=±1)±(p±1)±(q±1); second-order calculus function (N=±2)±(p±2)±(q±2); original function of higher order calculus function (N=±J)±(p±J)±(q±J); {q }means calculus The total elements of is unchanged, and the group combination is in a robust closed autonomic system.

Definition 3.5.1 The unknown elements of the calculus equation $\{X\}^S=({}^S\sqrt{}\{x_1x_2x_3\ldots x_S\})^{(S)}$ the known boundary conditions $\mathbf{D}=(D_1D_2D_3\ldots D_S\}$; the average value of the known elements:

$\{\mathbf{D}_0\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=\{\mathbf{B}/S\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=\{(1/S)(D_1+D_2+\ldots+D_S)\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$;

It is called the three elements of the calculus equation and satisfies the balance equation.

Definition 3.5.2 one-variable S-th order zero-order calculus equation (N=±0), (P=±0), (q=±0),

(3.5.1)$\mathbf{A}^{K(Z\pm S\pm N\pm P\pm0)/t}\pm\mathbf{B}X^{K(Z\pm S\pm N\pm P\pm1)/t}+\mathbf{C}X^{K(Z\pm S\pm N\pm P\pm2)/t}\pm\mathbf{P}X^{K(Z\pm S\pm N\pm P\pm p)/t}+\ldots$

$\pm\mathbf{L}X^{K(Z\pm S\pm N\pm P\pm m)/t}\pm\mathbf{M}X^{K(Z\pm S\pm N\pm P\pm m)/t}+\mathbf{D}$

$=\{x\pm({}^{KS}\sqrt{}\mathbf{D}\}^{K(Z\pm S\pm N\pm P\pm q)/t}$;

Definition 3.5.2 one-variable S-order first-order calculus equation (±N=1), (±P=1), (±q=1) "1+1 combination, $\{q\}=\{q_{jik}\}$;

Features: the total element (S) remains unchanged, the differential deletes the "A term" in the first sequence of the zero-order differential equation (original function) or the integral adds the "A term" to the first-order differential equation, [unknown last term

(<u>**M**</u>X) = already Know the last term <u>$({}^{KS}\sqrt{}\mathbf{D})$</u>$^{K(Z\pm S\pm(N=1)\pm(P=1)\pm(q=1))/t}$)",

the inside of 【】 is the first-order differential equation, and the integral is recovery The "**A** term" becomes the zero-order calculus equation.

Definition 3.5.4 One-variable S-order J-order calculus equation (±N=≥4), (±P=≥4); high calculus $\{q\}\in\{q_{jik}\}$ above the third order, the above method is also suitable.

Features: The total element (S) remains unchanged, the first term of the original function sequence "<u>A term to (J-1) term</u>" is deleted or the integral (J-1) order differential equation is increased and restored to "zero-order calculus", [Unknown last term<u>(J-1)X)=</u>known last term<u>$({}^{KS}\sqrt{}\mathbf{D})]$</u>$^{K(Z\pm S\pm(N=J)\pm(P=J)+(q=J))/t}$,

(3.5.4)$\int^{(J)}\{x\pm({}^{KS}\sqrt{}\mathbf{D}\}^{K(Z\pm S\pm(N=j)\pm(P=j)+(q=j))/t}dx^{(J)}=\{x\pm({}^{KS}\sqrt{}\mathbf{D}\}^{K(Z\pm S\pm(N=0)\pm(P=0)+(q=0))/t}$

In order to facilitate memory, list the following corresponding table processing coefficients and item order relations,

Zero-order calculus equation:

$ABC\ldots P\ldots LM=({}^{KS}\sqrt{}D)^{(N\pm0)}$; $(1-\eta^2)^{K(\pm(N=0)\pm(P=0)\pm(q=0)/t}$;

First-order calculus equation:

$\underline{A}$ BC…P… L$\underline{M}$=$(^{KS}\sqrt{D})^{(N\pm1)}$; $(1-\eta^2)^{K(\pm(N=1)\pm(P=1)\pm(q=1)/t}$;

Second-order calculus equation:

$\underline{AB}$C…P… $\underline{LM}$=$(^{KS}\sqrt{D})^{(N\pm2)}$; $(1-\eta^2)^{K(\pm(N=2)\pm(P=2)\pm(q=2)/t}$; ……;

(J)-order calculus equation:

$\underline{ABCJ}$…P… $\underline{JLM}$=$(^{KS}\sqrt{D})^{(N\pm J)}$; $(1-\eta^2)^{K(\pm(N=J)\pm(P=J)\pm(q=J)/t}$;

Definition 3.5.5 The regularized distribution of the order value (level) and term order of the first-order calculus equation

First-order (level) calculus equation. (S) Dimensional positive second term B coefficient $C_{(q=+1)}=(1/S)^{+1}$, $C_{(q=-1)}=(1/S)^{-1}$ is equivalent to reverse second term coefficient M. (±N=1), (±P=1),(±q=1) $C_{(q=\pm1)}=(1/S)^K$;

Let: $\{X\}^{KS}=(x_1x_2…x_S)^K$; (q=±1 group combination item "1+1 combination"; dx=$(^S\sqrt{(x_1x_2…x_S)}$

Average value of a positive power function: $\{x_0\}^{+1}=(1/S)^{+}(x_1^{+1}+x_2^{+1}+…+x_S^{+1})^{+1}$,

Average value of a negative power function: $\{X_0\}^{-1}=(1/S)^{-1}(x_1^{-1}+x_2^{-1}+…+x_S^{-1})^{-1}$;

Average value of a zero-power function: $\{X_0\}^{\pm1}=(1/S)^{\pm1}(x_1^{\pm1}+x_2^{\pm1}+…+x_S^{\pm1})^{\pm1}$";

(3.5.5)
$$
\begin{aligned}
d\{X\}^{\pm1}&=(x_1x_2…x_S)^{\pm1}/(x_0)^{+1}\\
&=[\{x_0\}^{+1}/(x_1x_2…x_S)^{\pm1}]^{-1}\\
&=(1/S)^{-1}[1/(x_1x_2…x_{(S-1)})+1/(x_1x_3…x_{(S-1)})+1/(x_1x_4…x_{S-1})+…]^{-1}\\
&=\sum_{(i=S)}(1/S)^{-1}\prod_{(q-1)}(x_1x_2x_3…x_S)^{-1}/\{X\}^{+1}\\
&=\sum_{(i=S)}(1/S)^{-1}(x_1^{-1}+x_2^{-1}+…+x_S^{-1})^{-1}\\
&=[\{X_0\}^{-1}\\
&=[\{X_0\}^{-1}/\{D_0\}^{+1}]\cdot\{D_0\}^{+1}\\
&=[(1-\eta^2)\cdot\{D_0\}]^{+1};
\end{aligned}
$$

First-order (level) circle logarithm:

(3.5.6) $$(1-\eta^2)^{\pm1}=[\{X_0\}/\{D_0\}]^{\pm1}=\{X_0\}^{-1}/\{D_0\}^{+1}=(1-\eta^2)^{K(\pm(N=1)\pm(P=1)\pm(q=1)/t}=(0 \text{ to } 1);$$

Where: $(x_1x_2…x_S)^{\pm1}=(x_1x_3…x_S)^{+1}\cdot(x_1x_4…x_S)^{-1}$; $(1-\eta^2)^{\pm1}=(1-\eta^2)^{+1}(1-\eta^2)^{-1}$;

Definition 3.5.6 Second-order (level) differential equation:

Features: (S) dimension (N=-2),(P=S±2),(q=±2). Positive third term **C** coefficient $(1/C_{(q=+2)})^{-1}=(2/(S-0)(S-1)^{-1}$=reverse third term L coefficient$(1/C_{(q=-2)})^K=(2/(S-0)(S-1)^K$;

Let: $\{X\}^{KS}=(x_1x_2x_3…x_S)^K$; (q=±2,=±2, group combination item "2-2 combination";

Average value of quadratic positive power function:

$\{x_0\}^{+2}=(2/S(S-1))^{+1}(x_1x_2^{+1}+x_2x_3^{+1}+…+x_Sx_1^{+1})^{+2}$,

Average value of the second negative power function:

$\{x_0\}^{-2}=(2/S(S-1))^{-1}(x_1x_2^{-1}+x_2x_3^{-1}+…+x_Sx_1^{-1})^{-2}$,

Average value of the power function in the second order:

$\{X_0\}^{\pm2}=(2/S(S-1))^{\pm1}(x_1x_2^{\pm1}+x_2x_3^{\pm1}+…+x_Sx_1^{\pm1})^{\pm2}$,

(3.5.7)
$$
\begin{aligned}
d^2\{X\}^{\pm0}&=(x_1x_2x_3…x_S)^{\pm0}/\{x_0\}^{+2}\\
&= [\{x_0\}^{+2}/(x_1x_2x_3…x_S)^{\pm0}]^{-1}\\
&=\sum_{(i=S)}(1/[2/S(S-1)]^{+1}[1/(x_1x_2…x_{(S-2)})]^{+1}+[1/(x_1x_3…x_{(S-2)})]^{+1}+[1/(x_1x_4…x_{S-2})+…]^{+1}\\
&=\sum_{(i=S)}(1/[2/S(S-1)]^{-1}(x_1x_2^{-1}+x_2x_3^{-1}+…+x_Sx_1^{-1})^{-1}\\
&= [\{X_0\}^{-2}\\
&= [\{X_0\}^{-2}/\{D_0\}^{+2}]\cdot\{D_0\}^{+2}\\
&= [(1-\eta^2)\cdot\{D_0\}]^{K(Z\pm2)};
\end{aligned}
$$

Regularization obtains:

$\sum_{(i=S)}(1/[2/S(S-1)]^{+1}[1/(x_1x_2…x_{(S-2)})]^{+1}+[1/(x_1x_3…x_{(S-2)})]^{+1}+[1/(x_1x_4…x_{S-2})+…]^{+1}$

=∑(i=S)(1/[2/S(S-1)]-1(x1x2-1+x2x3-1+…+xSx1-1)-1;

Second-order calculus (level) circle logarithm:

(3.5.8) $$(1-\eta^2)^{K(Z\pm2)}=[\{X_0\}/\{D_0\}^{K(Z\pm2)}=\{X_0\}^{K(Z-2)}/\{D_0\}^{K(Z+2)} =(1-\eta^2)^{K(S\pm(N=2)\pm(P=2)\pm(q=2)/t}=\{0 \text{ to } 1\};$$

Variable reciprocity:

(3.8.9) $$F(\cdot)\cdot G(\cdot)=(x_1x_2x_3…x_S)^{K(Z-2)}\cdot(D_1D_2D_3…D_S)^{K(Z+2)}=\{0 \text{ to } 1\};$$

Reciprocity of circle logarithm:

(3.5.10) $$(1-\eta^2)^{K(Z\pm2)}=(1-\eta^2)^{K(Z+2)}(1-\eta^2)^{K(Z-2)}=\{0 \text{ to } 1\};$$

In the same way, the similar derivation adapts to the order change of any high-dimensional sub-calculus.

The logarithm of a circle has isomorphism: (q=0,1,2,3,...the combination form of group combination)

(3.5.11) $(1-\eta^2)^{K(Z\pm-q)}=(1-\eta^2)^{K(Z\pm S-0)}=(1-\eta^2)^{K(Z\pm S-1)}=(1-\eta^2)^{K(Z\pm S-2)}=\ldots$
$=(1-\eta^2)^{\pm1}=\{0 \text{ to } 1\}$;

Conclusion: The regularized distribution of the calculus equation, by proving that the order value (level) changes in the positive, middle, and reverse directions, reflecting the change in the value of the "group combination" between the item sequence of the sub-items of the characteristic mode" constituting the calculus equation .

3.6. Topological circle logarithm $(1-\eta_T^2)^{K(Z\pm S\pm Q\pm M\pm N\pm q)/t}$

Definition 3.6.1 Topological circle logarithm: "The average value of the unknown combination item divided by the average value of the corresponding known combination item". Reflecting the measurement and distance between the group combination items, it has isomorphic topological consistency, and the real number value of the abstract dimensionless quantity is infinitely expanded in the region [0 to 1]. (The power function factors can be abbreviated or combined).

Calculus Equation and Logarithm of Topological Circle

(3.6.1) $[AX^{K(Z\pm S\pm N\pm0)/t}+BX^{K(Z\pm S\pm N\pm1)/t}+\ldots+PX^{K(Z\pm S\pm N\pm p)/t}+\mathbf{D}]/(D_0)^{K(Z\pm S\pm N)/t}\cdot(D_0)^{K(Z\pm S\pm N)/t}$
$=[(1/C_{(S\pm N\pm0)})^K X^{K(Z\pm S\pm N\pm0)/t}+(1/C_{(S\pm N\pm1)})^K X^{K(Z\pm S\pm N\pm1)/t}+\ldots+(1/C_{(S\pm N\pm p)})^K X^{K(Z\pm S\pm N\pm p)/t}]/(D_0)^{K(Z\pm S\pm N)/t}\cdot(D_0)^{K(Z\pm S\pm N)/t}+\mathbf{D}$
$=(1-\eta_T^2)[X_0^{K(Z\pm S\pm N\pm0)/t}+X_0^{K(Z\pm S\pm N\pm1)/t}+\ldots+X_0^{K(Z\pm S\pm N\pm p)/t}+\mathbf{D}]$
$=[(1-\eta_T^2)(X\pm D_0)]^{K(Z\pm S\pm N\pm q)/t}$;

Logarithmic expansion of topological circle

(3.6.2) $(1-\eta_T^2)^{K(Z\pm S\pm M\pm N\pm q)/t}=(1-\eta_T^2)^{K(Z\pm S\pm N\pm0)/t}+(1-\eta_T^2)^{K(Z\pm S\pm N\pm1)/t}+\ldots+(1-\eta_T^2)^{K(Z\pm S\pm N\pm p)/t}$;

Topological circle logarithm domain value

(3.6.3) $(\eta_T^2)^{K(Z\pm S\pm Q\pm M\pm N\pm q)/t}=\sum_{(i=+S)}(\eta_T^2)^{K(Z\pm S+N)/t}+\sum_{(i=-S)}(\eta_T^2)^{-K(Z\pm S-N)/t}=\{0 \text{ to } 1\}$;

Topological circle logarithmic symmetry

(3.6.4) $(\eta_T)=\sum_{(S=+q)}(+\eta_T)^{K(Z+S+N)/t}+\sum_{(S=-q)}(-\eta_T)^{K(Z-S-N)/t}=\{0 \text{ to } 1\}$;

3.7. The logarithm of the symmetrical circle of the center zero point $(1-\eta_\omega^2)^{K(Z\pm S\pm Q\pm M\pm N\pm q)/t}$

Definition 3.7.1 Symmetry center zero point symmetry circle logarithm: each item of the group combination divided by the average value of the corresponding group combination item. Reflect the asymmetry between the elements of the group combination item or the degree of deviation from the center zero point $\{0_0\}$. Indicates the degree of symmetrical distribution of domain values [0 to 1]. Reflected in the domain value, the value and state between the center zero position [0] and the boundary [1] can be adjusted, and the group combination elements become "concentric circles" where the center zero is superimposed by equivalent replacement. It has stable and reliable relative symmetry.

The power function becomes the rounding and rounding system of the time series of each concentric circle. In other words, the logarithm of the symmetry circle of the center zero point is the central point for processing the symmetry development of various high parallel multimedia states.

Definition 3.7.1The logarithm of the symmetry circle of the center zero point:
$(1-\eta_\omega^2)^{K(Z\pm S\pm N)/t}=[(\sqrt[S]{\alpha})/(D_0)]^{K(Z\pm S\pm N)/t}=[(x)/(D_0)]^{K(Z\pm S\pm N)/t}$

Definition 3.7.2Calculus Equation and the Logarithm of Symmetric Circle of Center Zero

(3.7.1) $[A^{K(S\pm0)/t}+B(\sqrt[n]{\alpha})^{K(S\pm1)/t}+\ldots+P(\sqrt[n]{\alpha})^{K(S\pm p)/t}]/(D_0)^{K(S)/t}$
$=[(1/C_{(S\pm N\pm0)})^K X^{K(Z\pm S\pm N\pm0)/t}+(1/C_{(S\pm N\pm1)})^K X^{K(Z\pm S\pm N\pm1)/t}+\ldots+(1/C_{(S\pm N\pm p)})^K X^{K(Z\pm S\pm N\pm p)/t}]/(D_0)^{K(Z\pm S\pm N)/t}$
$=(1-\eta_\omega^2)^{K(Z\pm S\pm N\pm0)/t}+(1-\eta_\omega^2)^{K(Z\pm S\pm N\pm1)/t}+\ldots+(1-\eta_\omega^2)^{K(Z\pm S\pm N\pm p)/t}$;

Definition 3.7.3The logarithm and factor expansion of the center zero point circle:

(3.7.2) $(1-\eta_\omega^2)^{K(Z\pm S\pm N)/t}=[\{x_1+x_2+\ldots+x_p\}/\sum_{(i=S)}\{X_0\}]^{K(Z\pm S\pm N)/t}$
$=\{\eta_1\pm\eta_2\pm\ldots\pm\eta_p\}^{K(Z\pm S\pm N)/t}=\{0,1\}^{K(Z\pm S\pm N)/t}$;

Definition 3.7.4 Central zero limit value:

(3.7.3) $(1-\eta_\omega^2)^{K(Z\pm S\pm N)/t}=\{0,(1/2),1\}^{K(Z\pm S\pm N)/t}$;

In the formula:

$(1-\eta_\omega^2)^{K(Z\pm S\pm N)/t}=\{0,1\}^{K(Z\pm S\pm N)/t}$ represents all values of the characteristic mode of the boundary or center zero point;

$(1-\eta_\omega^2)^{K(Z\pm S\pm N)/t}=\{1/2\}^{K(Z\pm S\pm N)/t}$ represents the symmetrical value on both sides of the center zero point;

Definition 3.7.5 Symmetry distribution of center zero point:

(3.7.4) $(\eta_\omega)^{K(Z\pm S\pm N)/t}=\mathbf{\Sigma}_{(S=+q)}(+\eta_\omega)^{K(Z\pm S\pm N)/t}=\mathbf{\Sigma}_{(S=-q)}(-\eta_\omega)^{K(Z\pm S\pm N)/t}$

Definition 3.7.6 Plane and front probability distribution of geometric ellipse (sphere)

(3.7.5) $(1-\eta_\omega^2)^{K(S)/t}=(1+\mathbf{\Sigma}_{(S=+q)}(+\eta_\omega))^{K(Z\pm S\pm N)/t}\cdot(1-\mathbf{\Sigma}_{(S=-q)}(-\eta_\omega))^{K(Z\pm S\pm N)/t}$;

The long axis of the geometric ellipse $(1-\mathbf{\Sigma}_{(S=+q)}(+\eta_\omega))^{K(Z\pm S\pm N)/t}$;

The short axis $(1-\mathbf{\Sigma}_{(S=-q)}(-\eta_{\omega})^2)^{K(Z\pm S\pm N)/t}$;

3.8. Logarithm of probability circle $(1-\eta_H{}^2)^{K(Z\pm S\pm Q\pm M\pm N\pm q)/t}$:

Definition 3.8.1 Logarithm of probability circle: a combination item divided by the corresponding combined total item. Reflecting the distribution degree of the element probability in the group combination item in the [1] area, it is to determine the "position and value" of each element of the group combination. $(1-\eta_H{}^2)^{K(Z\pm S\pm Q\pm M\pm N\pm q)/t}$: represents the probability of all closed discrete cluster elements. The unit "group combination" is written as: $\{X\}=({}^S\sqrt{x})^{K(Z\pm S\pm N\pm p)/t}$;

Suppose: unknown function:

$\{x\}^0=(x_1x_2\ldots x_s),(q=-0)$;

$\{x\}^1=\mathbf{\Sigma(S=q)}(x_1+x_2+\ldots),(q=-1)$;

$\{x\}^2=\mathbf{\Sigma}_{(S=q)}\mathbf{\Pi}_{(q=2)}[(x_1x_2)+\ldots(x_1x_P)],(q=-2)$; …;

$\{x\}^{(P)}=\mathbf{\Sigma}_{(S=q)}\mathbf{\Pi}_{(q=p)[}(x_1x_2\ldots x_P)+\ldots],(q=-p)$,

Known functions:

$\{x\}^0=(D_1D_2\ldots D_s),(q=+0)$;

$\{x\}^1=\mathbf{\Sigma}_{(S=q)}(D_1+D_2+\ldots),(q=+1)$;

$\{x\}^2=\mathbf{\Sigma}_{(S=q)(i=S)}\mathbf{\Pi}_{(q=2)}[(D_1D_2)+\ldots(D_1D_P)],(q=+2)$; …; $\{x\}^{(P)}=\mathbf{\Sigma}_{(S=q)}\mathbf{\Pi}_{(q=p)[}(D_1D_2\ldots D_P)+\ldots],(q=+p)$,

The circle logarithm reflects the asymmetry between the unknown function and the known function, that is to say, the degree of difference between them becoming symmetry is described by the asymmetry, which means that the closed "group combination" combines all the elements. The closed "group combination" is robust, that is, when "abnormal changes in the internal elements of the group combination" occur randomly, the calculation program immediately self-checks to check the cause of the error and correct it.

Definition 3.8.2 Calculus equation and logarithm of probability circle

$$(3.8.1)(1-\eta_H{}^2)^{K(Z\pm S\pm N\pm q)/t}=[(\mathbf{\Sigma}_{(S=q)}x_i)/(x_H)]^{K(Z\pm S\pm N\pm q)/t}$$
$$=[A^{K(Z\pm S\pm N\pm 0)/t}+B({}^S\sqrt{x})^{K(Z\pm S\pm N\pm 1)/t}+\ldots+P({}^S\sqrt{x})^{K(Z\pm S\pm N\pm p)/t}]/(D_H)^{K(Z\pm S\pm N)/t}$$
$$=[(1/C_{(S\pm N\pm 0)})^Kx^{K(Z\pm S\pm N\pm 0)/t}+(1/C_{(S\pm N\pm 1)})^Kx^{K(Z\pm S\pm N\pm 1)/t}+\ldots+(1/C_{(S\pm N\pm p)})^Kx^{K(Z\pm S\pm N\pm p)/t}]/(D_H)^{K(Z\pm S\pm N)/t}$$
$$=(1-\eta_{h1}{}^2)^{K(Z\pm S\pm N)/t}+(1-\eta_{h2}{}^2)^{K(Z\pm S\pm N)/t}+\ldots+(1-\eta_{hp}{}^2)^{K(Z\pm S\pm N)/t}$$
$$=\{0,1/2,1\}^{K(Z\pm S\pm N)/t};$$

Definition 3.8.3 The logarithmic factor expansion of the probability circle:

$$(3.8.2)(\eta_H)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=\mathbf{\Sigma}_{(S=q)}\{\eta_{h1}+\eta_{h2}+\ldots+\eta_{hp}\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$$
$$=\{1\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t};$$

Definition 3.8.4 Comprehensive writing method of circle logarithm calculus

$$(3.8.3)(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=\{(1-\eta_H{}^2)(1-\eta_{\omega}{}^2)(1-\eta_T{}^2)\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$$
$$=(0\ 到\ 1)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t};$$

The formulas (3.8.1)-(3.8.3) respectively have the logarithm of the probability circle $(1-\eta_H{}^2)$, the logarithm of the centrosymmetric symmetric circle$(1-\eta_{\omega}{}^2)$, and the logarithm of the topological circle $(1-\eta_T{}^2)$ Three unit (0, 1/2, 1) norm invariance". Respectively represent the probability distribution of elements between {0 to 1/2 to 1}, the degree of asymmetry of the central zero point, and the measurement, distance, and distribution degree of the level combination of the topological combination (order) span.

Through calculus-circle logarithm, the concept of calculus group combination can be changed from "finite" to "infinite" group combination, which is represented by the introduction of (Z) infinite elements: (K=+1,±0±1,-1)Element properties; (±S) combined elements (dimension, order) (±Q) combined elements area; (±M) high-parallel multimedia state combination of elements (dimension, order); (±N): level, Calculus order value; (±m): the range of change of the group combination element; the power function K(Z)/t=K(Z±S±Q±M±N±m±…±q/tcomposes the characteristic mode and The power function (time series) factor shared by the circle logarithm can be defined by the area, level, and multi-media state according to the scope of the actual object, and expressed by the increase or decrease of the factor. It can also be abbreviated.

3.9. Conversion and balance of calculus equations

For any asymmetry element, function $\{X\}\neq\{\mathbf{D}_0\}$ or $\{X\pm\mathbf{D}\}\neq\{X_0\pm\mathbf{D}_0\}$, the asymmetry is transformed by the logarithm of the circle . Change to relative symmetry. Here the logarithm of the circle $(1-\eta^2)$ reflects the degree of asymmetry between them, including the unevenness of the probability distribution, the asymmetry of the topological distribution, and the movement of the center zero point. In other words, the logarithm of the circle reflects the degree of asymmetry that can be adjusted and the center point can be moved. Under the condition of constant power, the asymmetry function can be converted into relative symmetry through the logarithm of the circle; the geometric description of the logarithm of the circle becomes "concentric circles", sharing the expansion of the time series.

(3.9.1) $\{X\pm\mathbf{D}\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=[(1-\eta^2)\{X_0\pm\mathbf{D}_0\}]^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$;

Definition 3.9.1 Discrete type

(3.9.2) $(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=(0 \text{ or } 1)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$;

Definition 3.9.2 Entanglement type:

(3.9.3) $(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=(0 \text{ to } 1)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$;

Definition 3.9.3 The boundary change of the logarithmic closed circle and the movement of the center zero point

(3.9.4) $(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}=[\{X_{01}\pm\mathbf{D}_{01}\}/\{X_{02}\pm\mathbf{D}_{02}\}]\cdot[\{X_{02}\pm\mathbf{D}_{0J}\}/\{X_{0J}\pm\mathbf{D}_{0P}\}]\cdots$

$\cdot[\{X_{0J}\pm\mathbf{D}_{0J}\}/\{X_{\circledcirc}\pm\mathbf{D}_{\circledcirc}\}]^{K(Z\pm S\pm(N)\pm(P)\pm q)/t}$

$=[\{X_{01}\pm\mathbf{D}_{01}\}/\{X_{\circledcirc}\pm\mathbf{D}_{\circledcirc}\}^{K(Z\pm S\pm(N)\pm(P)\pm 1)/t}$

$=(1-\eta^2)$

$=(0 \text{ to } 1)$;

The formula (3.9.4) proves that the center point movement or boundary change has nothing to do with the intermediate process, but is related to the start and end points. Finally it becomes the "concentric circle" or the logarithmic description of the isomorphism.

In the formula: X_0 and $\mathbf{D}_0$ respectively indicate that the total elements remain unchanged and the length of the circumference remains unchanged after the closure. The final and largest perfect circle feature model is formed through the circle logarithm. That is, calculus multivariable element group combination unit $\{q_0\}^{K(Z\pm S\pm(N)\pm(P)\pm q)/t}\in$ The unity of the three tuple generator $\{q_{0jik}\}^{K(Z\pm S\pm(N)\pm(P)\pm q)/t}$ is composed of the largest perfect circle center zero point and the boundary of the perfect circle, and each concentric circle is spread out according to the time series distribution. In other words, the boundary of any closed asymmetric circle can be changed to a symmetrical center circle through the logarithm of the circle; at the same time, the center zero point of any asymmetric closed circle logarithm can be moved to the center zero point of the center circle through the center point of the circle logarithm.

The group combination of various forms of calculus (N±j)±(p±j)±(q±j)has reciprocal symmetry and relative symmetry. But the change of calculus order value (N±j) is reflected in the change of item order and combination form (q±j) of group combination average (P±j) Thus, the symbol of calculus can be changed to the mathematical basis of power function (level). So that high-order calculus polynomials can be accurately solved by the circle logarithm method. The calculus-circle logarithm equation was reformed calmly.

3.10. Three state equations of calculus equation

According to the calculus equation $\{X\pm\mathbf{D}\}^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}$, the sum of the combination coefficients of the complete equation is $\{2\}^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}$ called "qubit", has three dynamic states:

(1), Subtraction: It belongs to calculus multidimensional sub-circle, torus, balance, conversion, and rotation;

(3.10.1) $[(1-\eta^2)\{X_0-\mathbf{D}_0]^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}=\{0\}^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}$;

(2), Addition: it belongs to calculus multidimensional subcircular surface, sphere, sphere, precession;

(3.10.2) $[(1-\eta^2)\{X_0+\mathbf{D}_0]^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}=\{2\}^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}$;

(3), Addition and subtraction: precession + rotation combination: a five-dimensional-six-dimensional geometric space belonging to calculus multi-dimensional sub-rotation + precession, and even high-dimensional sub-vortex space.

(3.10.3) $[(1-\eta^2)\{X_0\pm\mathbf{D}_0\}]^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}=\{0 \text{ 与 } 2\}^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}$;

(4). Geometric ellipse space, with periodic expansion of [closed circle long axis·closed circle short axis]:

(3.10.4) $(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(P\pm j)\pm(q\pm j)/t}=(1-\eta)^{K(Z\pm S\pm(N+j)\pm(P+j)\pm(q+j)/t}\cdot(1+\eta)^{K(Z\pm S\pm(N-j)\pm(P-j)\pm(q-j)/t}$;

(5), Symmetry of the center zero point

(3.10.5) $\mathbf{\Sigma}_{(i=+S)}(1-\eta)^{K(Z\pm S\pm(N+j)\pm(P+j)\pm(q+j)/t}=\mathbf{\Sigma}_{(i=-S)}(1+\eta)^{K(Z\pm S\pm(N-j)\pm(P-j)\pm(q-j)/t}$;

The symmetry of the central zero point is a key issue for the synchronous symmetry expansion of the high-parallel multimedia state, otherwise the high-parallel multimedia state (natural language, audio, video, center and boundary analysis) cannot reach the synchronous expansion. They are respectively composed of three-dimensional rotation and three-dimensional precession and the synthesis of multi-dimensional space. According to the common "symmetry of the central zero point" and the shared "time sequence", a five-dimensional (one-dimensional coincidence during precession)-six-dimensional (Qiu Chengtong-Karabi geometric space) or any multi-dimensional vortex space structure is composed.

4. Combinations of calculus equations and generators of triples

The most authoritative calculation tool in contemporary mathematics is the calculus equation. Why do calculus equations only have zero-order, first-order, and second-order; and they correspond to the physical mass-space composition velocity, acceleration, energy, kinetic energy, etc.? How do higher-order calculus equations condense in low-dimensional three-dimensional space? These are all issues that everyone cares about.

For the connection of mathematics and physics, pattern recognition and artificial intelligence, it is proposed that the combination of high-order calculus group is unit body {X}={q} and the combination of low-order calculus group is "$\{X_{jik}\}=\{q_{jik}\}$, which are elements $\{x_j\}$·weight $\{\omega_i\}$·potential$\{r_k\}$, called "triad generator". $\{X\}=\{q\}\in\{x_{jik}\}=\{q_{jik}\}$ means that each element {q} of the high-order calculus group combination has a corresponding $\{q_{jik}\}$. $\{q_{jik}\}$ means a change with three-dimensional geometric space and calculus order (N=±0,1,2). It also contains the change of the order (N=±0,1,2) of the element $\{x_j\}$·weight $\{\omega_i\}$·potential $\{r_k\}$ triplet generator.

The $\{q_{jik}\}=\{x_j\cdot\omega_i\cdot r_k\}$ of the three-dimensional geometric space has spheres, rings, and curved surfaces; the {qjik}={xj·ωi} of the two-dimensional geometric space has planes, spherical surfaces, and toroidal surfaces. Two-dimensional geometric space$\{q_{ji}\}=\{x_j\cdot\omega_i\}$. Among them, the two-dimensional space has the relationship between the plane and the vertical normal in Cartesian coordinates, as well as the vector and angular momentum; the straight lines and curves of the one-dimensional geometric space {xj} correspond to the relationship with the physical mass-space-time combination change. These can describe the relationship between their corresponding numbers and shapes through the logarithm of the circle.

Arbitrary high-parallel/serial calculus equations have multi-media states (natural language, audio, video, analysis and calculation) and other multi-level three-dimensional space-time, expressed in the area, level, etc. where the event occurred. And through the power function (time series) to control the dynamic relationship between {q} and $\{q_{jik}\}$ calculus.

$$\{X\}=\{X_{jik}\}=\{q\}]^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}\in\{X_{jik}\}=\{q_{jik}\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(qjik)/t};$$

Represents the high-dimensional space or high-order calculus equation, which is curled in the three-dimensional space of the calculus order (zero-order, first-order, second-order) of the generator {qjik} of the bottom-dimensional triplet.

People guess that high-dimensional space or high-order calculus equation {q}≥4 and low-dimensional space or low-order calculus equation $\{q_{jik}\}\leq 3$, or there is an integer between three-dimensional and four-dimensional, this integer is $\{q\}=\{q_{jik}\}$. Among them: high-order calculus equations and low-order triplet generators (zero-order, first-order, second-order) are repeated $\{q\}\in\{q_{jik}\}$; when it is equal to or greater than the third-order, it becomes a high-dimensional space Curl in the low-dimensional space.

However, in the high-parallel multimedia state, it is conditional to achieve "synchronization and crimping" expansion. It must have a "concentric circle" based on the "unified central zero-point symmetry circle logarithm" in order to obtain a shared power function (Time series) in order to have a relatively symmetrical expansion of the synchronization of high-parallel multi-media states. Otherwise, "synchronization, curl" is incomplete or unsuccessful. This used to be a computational problem of parallel analysis, and it was successfully solved by the logarithm of "probability-topology-center zero".

4.1. Group combination of differential and integral equations {Q} ∈ {qjik}

The basic calculus order (N=±0,1,2) of the triple generator $\{q_{jik}\}$ represents the order (level) change of the zero order, the first order and the second order calculus equation, which is reflected as the "crossing" of the calculus order of the group combination characteristic module and the circular logarithm. The order changes are (N = ± 0,1,2 J) They all iterate on the basis of the basic module.

Definition 4.1.1 the discriminant of differential equation equilibrium,

$(1-\eta^2)=\{(^S\sqrt{D})/D_0\}=(0\ \text{or}\ 1)$ is "discrete calculus equation";

$(1-\eta^2)=\{(^S\sqrt{D})/D_0\}=(0\ \text{to}\ 1)$ is "entangled calculus equation".

Definition 4.1.2 element volume differential element

$N=(-1,-2\ldots-J)$: $dx=(x)^{-1}$, $d^2x=(x)^{-2}$; …; $d^{(J)}x=(x)^{(-J)}$);

First derivative(N=-1): $dx=(^S\sqrt{x_1x_2\ldots x_S})^{K(Z\pm S\pm(N=-1)\pm(p=-1)\pm qjik=-1)}$,

Second derivative(N=-2): $d^2x=(^S\sqrt{x_1x_2\ldots x_S})^{K(Z\pm S\pm(N=-2)\pm(p=-2)\pm qjik=-2)}$, …,

Higher order derivative(N=-J): $d^Jx=(^S\sqrt{x_1x_2\ldots x_S})^{K(Z\pm S\pm(N=-j)\pm(p=-j)\pm q=-j).}$,

Definition 4.1.3 element volume integral element:

$N=(+1,+2\ldots+J)$: $\int^{(1)}f'(x)dx$, $\int^{(2)}f''(x)d^2x$, $\int^{(J)}f^{(J)}(x)d^{(J)}x$;

First order integral(N=+1): $f dx=(^S\sqrt{x_1x_2\ldots x_S})^{K(Z\pm S\pm(N=+1)\pm(p=+1)\pm(qjik=+1)}$,

Second order integral(N=+2): $ff d^2x=(^S\sqrt{x_1x_2\ldots x_S})^{K(Z\pm S\pm(N=+2)\pm(p=+2)\pm(qjik=+2)}$, …,

Higher order integral(N=+J): $f^{(J)}d^Jx=(^S\sqrt{x_1x_2\ldots x_S})^{K(Z\pm S\pm(N=+j)\pm(p=+j)\pm(q=+j)}$,

Finally, the integral is reduced to the zero order differential equation.Traditional calculus is expressed as a power function exp with a fixed e logarithm. From Newton calculus to Lebesgue measure (including real variable function and functional analysis), the power function (Time Series) can not be expanded as an integer, so "error approximation analysis" has become a congenital defect. Here, the calculus equation changes the traditional calculus symbol and logic algebra symbol to power function factor (Time Series) through power function. We call it a function without derivatives.[proof 6]: integers of calculus equation (power function time series)

Definition 4.1.4 basic module iteration method: divide the basic module $\{^{S}\sqrt{X}\}^{K(0,1)/t}$ by the multiple elements $\{^{S}\sqrt{X}\}^{K(Z)/t}$ to get the power function integer expansion.

Let: the total element (S) be constant, the unknown element $\{X_0\}^{k(Z\pm S\pm(N=\pm 0,1,2\ldots J)\pm(p=\pm 0,1,\ldots J)\pm(q)/t}$

It is known that $\{D_0\}^{k(Z\pm S\pm(N=\pm 0,1,2\ldots J)\pm(p=\pm 0,1,2)\pm(q)/t}$ forms the characteristic module of the closed variable element $\{q_0\}$(mean value of positive, middle and inverse functions). The $\{X_\Theta\}^{K(Z)/t}$denotes that all（S=q）$\{q\}\in$ triple generators $\{q_{jik}\}$ form the largest "concentric circle".

(1)，Iterate according to the natural number "0 or 1" sequence.

The first (multiplication) basic module:

(4.1.1) $\{X_\Theta\}^{K(q=\pm 0)/t}=\{X_0\}^{K(0)/t}=\{^{KS}\sqrt{\mathbf{D}}\}^{K(0)/t}$;

The second (continuous addition) basic module is as follows

(4.1.2) $\{X_\Theta\}^{K(q=\pm 1)/t}=\{X_0\}^{K(1)/t}=\sum_{(i=S)}(1/S)^{+1}(x_i)^{+1}\}^{K(1)/t}$;

The power function (Time Series) is expanded by basic modular integers (generator is triple $\{q\}\in\{q_{jik}\}=\{^{KS}\sqrt{X}\}$

(4.1.3) $\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q)/t}/\{X_0\}^{K(0,1)/t}=k(Z\pm S\pm(N=\pm(0\ldots J)\pm(p=\pm(0\ldots J)\pm(q=\pm(0\ldots J))/t$;

(2)，Zero order calculus: original function.

(4.1.4) $\{X_0\}^{k(Z\pm S\pm(N=\pm 0)\pm(p=\pm 0)\pm(q)/t}/\{X_0\}^{K(j)/t}=k(Z\pm S\pm(N=0)\pm(p=0)\pm(q)/t$;

(3)，First order calculus: zero order first order differential, or the first order integral becomes the original function.

(4.1.5) $\{X_0\}^{k(Z\pm S\pm(N=-1+1=\pm 0)\pm(p=\pm 0)\pm(q)/t}/\{X_0\}^{K(1)/t}=k(Z\pm S\pm(N=-1+1=\pm 0)\pm(p)\pm(q)/t$;

(4), Second order calculus: zero order second order differential, or second order integral becomes the original function.

(4.1.6) $\{X_0\}^{k(Z\pm S\pm(N=-2+2=\pm 0)\pm(p=\pm 0)\pm(q)/t}/\{X_0\}^{K(2)/t}=k(Z\pm S\pm(N=-2+2=\pm 0)\pm(p)\pm(q)/t$;

(5)，Under the action of circular logarithm (including zero order, first order and second order calculus).

(4.1.7) $(1-\eta^2)^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0)\pm(q)/t}=[\{(^{S}\sqrt{x})/\mathbf{D}_0\}=\{(^{S}\sqrt{\mathbf{D}})/\mathbf{D}_0\}]^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0)\pm(q)/t}$;

Where:k=（+1,0,-1）; infinite (z); arbitrary finite (±S); (±N=±0,1,2)zero order, first order, second order calculus, group combination term order(p=±0,1,2); group combination element body triple generator$\{^{KS}\sqrt{X}\}=\{q\}=\{q_{jik}\}$; dynamic system time (T). Where: high dimension$\{q\}\geq\{4\}\in$ low dimension $\{q_{jik}\}\leq\{3\}$. $\{q\}=\{q_{jik}\}$ becomes an integer between four and three dimensions.

(6), The differential and integral equations of triple generator

Define the $\{q_{jik}\}$ order (zero order, first order, second order) of the triple:**(N=±0,1,2)(p=±0,1,2)(q_{jik}=±0,1,2):**

Let : $[\{q\}=\{^{KS}\sqrt{X}\}]^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)-(qjik)/t}\in[\{q_{jik}\}=\{^{KS}\sqrt{\mathbf{D}_{jik}}\}]^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)+(qjik)/t}$;

$(1-\eta^2)^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(qjik)/t}=[(^{KS}\sqrt{\mathbf{x}_{0jik}})/(\mathbf{D}_{0jik})]^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(qjik)/t}$;

Three tuple generator calculus equation:

(4.1.8)
$$\begin{aligned}
&\{X\pm(^{KS}\sqrt{\mathbf{D}})^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)-(qjik)/t}\\
&\in Ax_{jik}^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(qjik=0)/t}\\
&\pm Bx_{jik}^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(qjik=1)/t}\\
&+Cx_{jik}^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(qjik=2)/t}\pm\mathbf{D}_{jik}\\
&=x_{jik}^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)-(qjik=0)/t}\\
&\pm 3x_{jik}^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)-(1)/t}(\mathbf{D}_{0jik})^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)+(2)/t}\\
&+3x_{jik}^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)-(2)/t}(\mathbf{D}_{0jik})^{k(Z\pm S\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)+(1)/t}\\
&\pm(^{KS}\sqrt{\mathbf{D}_{jik}})^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)-(0)/t}\\
&=[(1-\eta^2)\cdot\{X-(^{KS}\sqrt{\mathbf{D}})]^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(q)/t}\\
&=[(1-\eta^2)\cdot\{0,2\}\cdot(\mathbf{D}_{0jik})]^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(q)/t};
\end{aligned}$$

(4.1.9) $[\{X-(^{KS}\sqrt{\mathbf{D}})=(1-\eta^2)\cdot\{0\}\cdot(\mathbf{D}_{0jik})]^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(q)/t}$;

(4.1.10) $[\{X+(^{KS}\sqrt{\mathbf{D}})=(1-\eta^2)\cdot\{2\}\cdot(\mathbf{D}_{0jik})]^{k(Z\pm(S=3)\pm(N=\pm 0,1,2)\pm(p=\pm 0,1,2)\pm(q)/t}$;

(7), The power function of the generator of the triplet of the calculus equation

Define the generator of the three-tuple of the calculus equation: the three elements of the cluster set [element(x_j), weight(ω_i), potential energy (r_k)] form a unit body $\{X\}=\{q_{jik}\}=[(x_j)\cdot(\omega_i)\cdot(r_k)]$. This is a unique combination set with low-dimensional $\{q_{jik}\}$ as the unit body under the condition of multivariate S={q} continuous multiplication of calculus, describing that calculus is in the state of "zero-order, first-order, and second-order". Describe the dynamic system of the speed and acceleration changes of the element and the space, while satisfying the power function (time series) integer (high-dimensional space $\{q\}\in\{q_{jik}\}=\{^{KS}\sqrt{X}\}=\{^{KS}\sqrt{X_{jik}}\}$

(4.1.11) $\{X_0\}^{k(Z\pm S\pm(N=0,1,2...J)\pm(p=0,1,2...J)\pm(qjik=0,1,2,3))/t}/\{X_0\}^{K(J)/t}$

$=K(Z\pm S\pm(N=0,1,2,3)\pm(p=0,1,2,3)\pm(q_{jik}=0,1,2,3))/t$;

The formula (4.1.11) is based on the superposition of the order value of the higher order calculus equation(N=±0,1,2…J), the conversion of any (parallel/serial multimedia state) higher order (power dimension) calculus equation In order to be limited to the triple order value of the generator (N=±0,1,2,3) the item order(p=±0,1,2,3)element combination form(q_{jik}=±0,1,2,3). The calculus equations of order three and above (q≥±3,…J) are condensed in the low-dimensional three-dimensional space$\{q_{jik}=3\}$ (indicating triples).

4.2. The triple generator of the calculus equation $\{q_{jik}\}^{K(Z)/t}=\{q_{0jik}\}^{K(Z)/t}$

Definition 4.2.1 Characteristic model of calculus: Under multivariable conditions, any calculus equation can be a tree-like multi-parallel/multi-serial triad generator calculus equation. The difference is that the composition form of $\{\mathbf{D}_{jik}\}^{K(Z\pm S\pm(N=0,1,2)\pm(p=0,1,2)\pm(q=0,1,2))/t}$ is the element connection. Multiply or add. They are respectively called high serial/high parallel calculus equations. In particular, each has its own discrete and entangled forms. The order value changes are synchronized with the item order and element combination(N=0,1,2)±(p=0,1,2)±(q=0,1,2)); ;

(1), The high parallel calculus equation is called the area (Q) of the high element second-order calculus equation.

(4.2.1) $\{R_{\Theta jik}\}^{K(Z)/t}=\boldsymbol{\Sigma}_{(S=qjik)}\{R_{\Theta jik}\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(q=0,1,2))/t}$;

(2), High-serial calculus equation, called the area (Q) multiplication of high-element second-order calculus equation.

(4.2.2) $\{R_{\Theta jik}\}^{K(Z)/t}=\boldsymbol{\Pi}_{(S=qjik)}\{R_{\Theta jik}\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(q=0,1,2))/t}$;

(3), Generating element calculus equation, called high-tuple second-order calculus equation,

Definition 4.2.2 Calculus probability-topology-the logarithm of the second-order circle of center zero point:

(4.2.3)$(1-\eta_T^2)^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2))/t}$

$=[(^S\sqrt{X_{\mathbf{jik}}})/(\mathbf{D}_{0jik})]^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2))/t}$

$=[\sum_{(i=c,w)}\{X_j\}/\sum_{(S=qjik)}\prod_{(i=p)}(1/C_{(i=p)})\{X_j\}]^{K(Z\pm S\pm(N=0,1,2)\pm(qjik=0)/t}$

$=[\sum_{(i=c,w)}\{\omega_i\}/\sum_{(S=qjik)}\prod_{(i=p)}(1/C_{(i=p)})\{\omega_i\}]^{K(Z\pm S\pm(N=0,1,2)\pm(qjik=1)/t}$

$=[\sum_{(i=c,w)}\{r_k\}/\sum_{(S=qjik)}\prod_{(i=p)}(1/C_{(i=p)})\{r_k\}]^{K(Z\pm S\pm(N=0,1,2)\pm(qjik=2)/t}$;

Among them: $\{X\}^{K(Z\pm S\pm Q\pm M\pm N\pm qjik)/t}=\{R_{\Theta jik}\}^{K(Z)/t}$ respectively represents the group combination of any high-order calculus or computer clustering set, forming a topological "concentric "Circle", expand in time series.

Where: the largest three-dimensional concentric circle in area(Q)$\{R_{\Theta jik}\}$:

(4.2.3) $\{R_{\Theta jik}\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2,3))/t}=\mathbf{D}_{\mathbf{0}jik}{}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2,3))/t}$;

Zero-order multivariable calculus equation (original function),

(4.2.4) $\{X_{jik}\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2,3))/t}=\{x_j\omega_i r_k\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2,3))/t}$;

There are the following probabilities {xj} (zero-order calculus, first tree level)-weight {xjωi} (first-order calculus, second tree level)-potential (topology) {xjωirk} (second-order calculus) , The third tree level).

Definition 4.2.3 Group combination element probability {xj}

(4.2.5) $(1-\eta_H^2)=\{x_h/x_H\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2))/t}$

$=[(1-\eta_{h1}^2)+(1-\eta_{h2}^2)+\ldots+(1-\eta_{hS}^2)]^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2))/t}=\{1\}^{K(Z\pm S\pm Q\pm(N=0,1,2)\pm(p=0,1,2)\pm(qjik=0,1,2))/t}$

The power function tree has multiple levels: the first tree (S) level: the second tree (Q) level: the third tree (M) level: the computing power that composes the calculus is $\{\mathbf{D}_0\}$ serial[(S)·(Q)·(M)] or parallel $\{\mathbf{D}_0\}$[(S)+(Q)+(M)]. However, the logarithm form of the circle is the same, which shows that the isomorphism of time calculation is consistent.

4.3, group combination zero-order calculus equation

The power function table of the zero-order calculus equation is "(N=±0), (P=±0), (q_{jik}=±0)combination" closedness $\{S=q_{jik}\}$ elements remain unchanged, robust and can be avoided The loss of internal elements counters the interference of external elements.

There are: zero-order differential equations:(N=0); (p=0); (q=1),

The first order differential equation increases by one order)

(N=-1+1=0),(p=-1+1=0),(q=-1+1=0);

The combination term of the second-order differential equation adds the binomial) combination set" to get the original function. has the following attributes:

$dx=(^S\sqrt{X})=(^S\sqrt{x_1x_2\ldots x_S})=\{\mathbf{x}_0\}^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(qjik=1))/t}$;

$D^{(J)}x=(^S\sqrt{X})=(^S\sqrt{x_1x_2\ldots x_S})=\{\mathbf{x}_0\}^{K(Z\pm S\pm(N=\pm0,1,2...j)\pm(p)\pm(qjik=1))/t}$;

Definition 4.3.1, the zero-order calculus equation corresponds to the first tree (S) level)

The above-mentioned concept of "concentric circles" controlled by time series is reflected in the power function and time series K(Z)/t=K(Z=K(Z±S±(N=±0,1,2...J)±(p)±(qjik))/t arithmetic superposition.
The power function table of the zero-order calculus equation is closed{S} element unchanged. Calculus is "(N=±0),(P=±0),(q=±0) combination" closed circle{S},{q∈q_{jik}} element is unchanged, and it is robust (prevent elements from being disturbed).

When the element of the calculus equation is smaller than the three-element combination, it is combined with the generator element, with {q}={q_{jik}}={$^{KS}\sqrt{x_1x_2\dots x_S}$}"3-3, 2-2, 1-1, 0-0" combined micro Integration order and group combination term. K=(+1,0,-1) represents the function and time properties. Has the following probability attributes:

(1),Probability structure: {q∈q_{jik}}=$\mathbf{\Sigma}_{(jik=S)}$\{$q_{jik}$\};

(2) Probability distribution: {x_i}=$\mathbf{\Sigma}_{(jik=S)}$\{$x_j$\};

(3) Average probability: {x0i}=Σ(jik=S)(1/S){xi};

(4) Logarithm of probability circle: $(1-\eta_H^2)^{k(Z\pm S\pm(N=0)\pm(p=0)\pm(q=0)/t}=\{x_i\}/\mathbf{\Sigma}_{(jik=S)}\{x_j\}=\{1\}$;

(5) Proof of reciprocity of calculus:

(4.3.1) $[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm q)/t}=[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm q)/t}/\{X_\Theta\}^{K(\pm1)/t}\cdot\{X_\Theta\}^{K(\pm1)/t}$

$=[\{X_\Theta\}^{K(+1)/t}/\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm q)/t}]^{K(-1)/t}\cdot\{X_\Theta\}^{K(\pm1)/t}$

$=\{[(1/C_{(S\pm(N-1)\pm(p-1)\pm q)})^{-1}\mathbf{\Sigma}_{(S=qjik)}\{x_i\}^{-1}]^{k(Z\pm S\pm(N-1)\pm(p-1)\pm qjik)/t}\cdot\{X_\Theta\}^{K(\pm1)/t}$;

Move $\{\{X_\Theta\}^{K(\pm1)/t}$ to the left of the equal sign to realize the reciprocity of the first-order calculus,

(4.3.2) $\{X_0\}^{k(Z\pm S\pm(N=\pm1)\pm(p=\pm1)\pm qjik=1)/t}=\{X_0\}^{k(Z\pm S\pm(N=-1)\pm(p=-\pm1)\pm(qjik=-1)/t}\cdot\{X_0\}^{k(Z\pm S\pm(N=+1)\pm(p=+1)\pm(qjik=+1)/t}$;

(4.3.3) $(1-\eta_H^2)^{k(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm qjik)/t}=[\{X_j\}/\{X_\Theta\}]^{k(Z\pm S\pm(N=0)\pm(p=0)\pm qjik=0)/t}]^{K(Z\pm S)/t}$

$=(1-\eta_H^2)+(1-\eta_H^2)+\dots+(1-\eta_H^2)^{k(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm qjik)/t}=\{1\}$;

Definition 4.3.2, the first order calculus corresponds to the second tree （**Q**） level

(1), The first order calculus equation chooses to delete the first term or the penultimate term of the original function (0 order): it becomes the first order sum term.

(2) ,The second level set of tree structure, the power function-time series isK(Z±S±Q±((N=±1)±q)/t level, with $\{2\}^{K(Z\pm S\pm Q)/t}$. The second tree level is called K(S·Q) qubits.

(3), Weight structure, {q∈q_{jik}}=$\mathbf{\Sigma}_{(S=qjik)}$\{$x_j\cdot\omega_i$\}.

(4), Weight radius: {ω_i}=$\mathbf{\Sigma}_{(S=qjik)}$\{$x_j\cdot\omega_i$\} /$\mathbf{\Sigma}_{(jik=S)}$\{$x_j$\}

(5), Average value of weights: {ω_{0i}}=$\mathbf{\Sigma}_{(S=qjik)}$ {ω_i} /$\mathbf{\Sigma}_{(jik=S)}$(1/S){$\omega_i$},,

(6), The logarithm of the central symmetry circle$(1-\eta_\omega^2)^{k(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(q)/t}=\{0 \text{ or } 1\}$. It is called the center zero point symmetry Logarithm of sex circle.

Definition 4.3.3. Second-order calculus corresponds to the third tree（**M**） level

(1) ,The second-order calculus equation chooses to delete the first, second, and third terms of the original function (order 0) and the first, second, and third terms of the last:

Become a second-order sum term.

(2), The third level set of tree structure, the power function-time series isK(Z±S±Q±M±((N=±*0,1,2*)±*(*q_{jik})/tlevel, with $\{2\}^{K(Z\pm S\pm Q)/t}$. The third tree level is called K(S·Q·M)qubit.

(3), Potential energy topology, {q∈q_{jik}}=$\mathbf{\Sigma}_{(S=qjik)}$\{$x_j\cdot\omega_i$\}。

(4), Potential energy topology radius: {r_k}=$\mathbf{\Sigma}_{(S=qjik)}$\{$x_j\cdot\omega_i$\} /$\mathbf{\Sigma}_{(jik=S)}$\{$x_j$\}

(5), Average value of potential energy topology: {r_{0k}}=$\mathbf{\Sigma}_{(S=qjik)}$\{$\omega_i$\} /$\mathbf{\Sigma}_{(jik=S)}$(1/S){$\omega_i$},

(6), The logarithm of the symmetrical circle of potential energy center

$(1-\eta_T^2)^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p=\pm0,1,2)\pm(qjik)/t}=\{0 \text{ to } 1\}$. It is called the logarithm of the topological circle at the center zero point.

Definition 4.3.4, zero-order calculus discriminant: belongs to discrete calculus

(4.3.4) $(1-\eta^2)^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}=[\{x\}/\{\mathbf{D}\}]^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}$

$=[(^S\sqrt{x})\}/\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}$

$=\{0 \text{ or } 1\}^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}$;

Definition 4.3.5, zero-order calculus discriminant: belongs to entangled calculus

(4.3.5) $(1-\eta^2)^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}=[(^S\sqrt{\alpha})\}/\{D\}^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}$

$\neq\{0 \text{ or } 1\}^{K(Z\pm S\pm(N=\pm0)\pm(p=\pm0)\pm(qjik=\pm0)/t}$;

4.4. The weights of the first-order calculus equation{x_{jik}}={$x_j\omega_i$}

Definition 4.4.1 First-order differential equation:(N=-1) (the original function is reduced by one order); (p=-1) (combination term is reduced by one); (q_{jik}=-1) combination form".

Definition 4.4.2 First-order integral equation:(N=+1) (first-order differential equation increases by one order); (p=+1) (first-order differential equation combination item increases by one);(q_{jik}=+1) combination Form". To obtain the zero-order calculus (original function), $\{q\}=\{q_{jik}\}$ (generator) is combined without repetition to become the {P} combination item.

The first-order differential(N=-1),(q_{jik}=-1) is based on the basic modulus $\{X_{\Theta}\}^{K(\pm1)/t}=\{X_0\}^{K(\pm0,1)/t}$ is $\{X_{\Theta}\}^{K(-1)/t}$ for decreasing iteration:

The first-order integral (N=+1),(q_{jik}=+1) is based on the basic modulus $\{X_{\Theta}\}^{K(\pm1)/t}=\{X_0\}^{K(\pm0,1)/t}$ is $\{X_{\Theta}\}^{K(+1)/t}$for incremental iteration:

In particular, calculus is combined intok(Z±(N=0,1,2)±(P=0,1,2)±(*q=0,1,2*)/t=k(Z±S±(N)±(p)±q)/t; becomes a "function without derivative".

Definition 4.4.3, Discrete first-order differential equation （N=±1）:

$\mathbf{D}=\{\mathbf{D}_0\}^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm(q=1)/t}$; $dx=({}^S\sqrt{X})=\{({}^S\sqrt{x_1x_2\ldots x_S})\}^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm(q=1)/t}$;

(4.4.1) $\{x\pm({}^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=1)\pm(p\pm1)\pm q)/t}=\underline{\mathbf{A}({}^S\sqrt{x})}^{K(Z\pm S\pm(N=1)\pm(p\pm1)\pm q)/t}$

【$\pm\mathbf{B}({}^S\sqrt{x})^{K(Z\pm S\pm(N=1)\pm(p\pm1)\pm(q=+1)/t}$

$+\{\mathbf{C}({}^S\sqrt{x})D_0\}^{K(Z\pm S\pm(N=1)\pm(p\pm1)\pm2)/t}+\ldots$

$\pm({}^S\sqrt{x}D)^{K(Z\pm S\pm(N=1)\pm(p=1)\pm(q=+1)/t}$】

$=\{X\pm({}^S\sqrt{\mathbf{D}_0})\}^{K(Z\pm S\pm(N=1)\pm(p=1)\pm(q)/t}$

$=(1-\eta^2)^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm(q)/t}\{x_0\pm D_0\}^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm(q)/t}$

$=(1-\eta^2)^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm(q)/t}[\{0,2\}\cdot\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm(q)/t}$;

Definition 4.4.4, entangled first-order differential equation($\mathbf{D}\neq\{\mathbf{D}_0\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm(q)/t}$)

(4.4.2) $\{x\pm({}^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm(q)/t}=\underline{\mathbf{A}({}^S\sqrt{X})}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm0)/t}$ 【$\pm\mathbf{B}({}^S\sqrt{x})^{K(Z\pm S\pm(N-1)\pm(p-1)\pm1)/t}+$

$+\{({}^S\sqrt{x})D_0\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm2)/t}+\ldots\pm D$】

$=\underline{\mathbf{A}({}^S\sqrt{X})}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm0)/t}$ 【$\pm\mathbf{B}({}^S\sqrt{x})^{K(Z\pm S\pm(N-1)\pm(p-1)\pm1)/t}+$

$+\{({}^S\sqrt{x})D_0\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm2)/t}+\ldots\pm({}^S\sqrt{D}\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm1)/t}$】

$=$ 【$\pm\mathbf{B}({}^S\sqrt{x})^{K(Z\pm S\pm(N-1)\pm(p-1)\pm1)/t}++\{({}^S\sqrt{x})D_0\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm2)/t}+\ldots$

$\pm({}^S\sqrt{D}\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm1)/t}$】

$=\{X\pm({}^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm q)/t}$

$=[(1-\eta^2)\cdot\{x_0\pm D_0\}]^{K(Z\pm S\pm(N-1)\pm(p-1)\pm(q)/t}$

$=[(1-\eta^2)\cdot[\{0,2\}\cdot(D_0)]^{K(Z\pm S\pm(N-1)\pm(p-1)\pm q)/t}$;

Definition 4.4.5 First-order multivariate calculus-circle logarithm expansion.

First-order multivariate calculus-circle logarithm expansion

(4.4.3) $\{(1-\eta^2)\cdot(D_0)\}^{k(Z\pm S\pm(N=\pm0,1)\pm(p)\pm(q)/t}=[(1-\eta^2)\cdot(D_0)]^{k(Z\pm S\pm(N=\pm0,)\pm(p)\pm(q)/t}$

$+[(1-\eta^2)\cdot(D_0)]^{k(Z\pm S\pm(N=\pm1)\pm(p)\pm(q)/t}$

$=\{(0\text{ to }1)\cdot(D_0)\}^{k(Z\pm S\pm(N=\pm0,1)\pm(p)\pm(q)/t}$;

(4.4.4) $0\leq(1-\eta^2)^{k(Z\pm S\pm(N=\pm0,1)\pm(p=\pm1)\pm(q)/t}\leq1$;

the calculus process is expressed in $\underline{(1-\eta^2)}^{k(Z\pm S\pm(N=\pm1)\pm(p=\pm1)\pm(0)/t}=\underline{[({}^S\sqrt{x})/D_0]}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm0)/t}$

Where: power function k(Z±S±Q±(N=±0,1)±(p=±1)±(q)/t(zero-order, first-order) calculus equation; $\{q\}\in\{q_{jik}\}$ The total elements remain unchanged, and are combined according to the combination of region, level, and multi-media state. The differential equation is expressed by (N=-*1*)±(p=-*1*); the integral equation is expressed by (N=+0,1)±(p=+*1*) means;

Expressed as a differential equation(N=-1),(P=-1) is upgraded to (N=+1),(P=+1)is based on the positive basic modulus$\{X_0\}^{k(Z\pm S\pm(N+1)\pm(p+1))/t}$ is iterated to become the original function (N=-1+1=±0), (P=-1+1)=±0) (the "zero order plus one order" matrix Calculus equation).

4.5. Second-order calculus topological equation $\{x_{jik}\}=\{x_j\omega_i r_k\}$

The power function table of the second-order calculus equation is "(N=±2),(P=±2)(q=±2)combination" closedness {S} element is unchanged, robust, and can avoid internal elements Lost, against the interference of external elements.

There are: second-order differential equations:(N=-2) (the original function is reduced by the second order);(p=-2) (combined term is reduced by binomial) (p=-2) (combined average is reduced by two elements) Combination set",

Second-order integral equation:(N=+2) (the second-order differential equation increases the second order);(p=+2)(q=+2) (the combination of the second-order differential equation adds two terms) the combination set" to get the original Function. Has the following properties:

$({}^S\sqrt{X})=({}^S\sqrt{x_1x_2\ldots x_S})=dx$; $\mathbf{D}=\{\mathbf{D}_0\}^{K(Z\pm S\pm(N\pm1,2)\pm(p\pm1,2)\pm(q\pm1,2))/t}$;

Definition 4.5.1 Potential energy (topology)$\{\mathbf{x_j\omega_i r_k}\}$ (second-order calculus, third tree **(M)** level),

(1), Choose to delete the second term or the penultimate term of the original function (order **0**) for the second-order calculus equation: the second-order sum term of the group.

(2) The third level set of tree structure, the power function-time series is K(Z±S±Q±M±((N=±2)±q)With $\{2\}^{K(Z\pm S\pm Q\pm M\pm((N=\pm2)\pm q)/t}$, where $(S=\mathbf{\Sigma}_{(jik=S)}q_{jik})$, the third tree level is called K(S·Q·M) Qubit.

(3) Topological structure, $\{q \in q_{jik}\}=\{x_j \cdot \omega_i \cdot r_k\}$..

(4) Topological radius: $\{r_k\}=\mathbf{\Sigma}_{(jik=S)}\{x_j \cdot \omega_i \cdot r_k\} / \mathbf{\Sigma}_{(jik=S)}\{x_j \cdot \omega_i\}$

(5) Topological average: $\{r_{0k}\}=\mathbf{\Sigma}_{(jik=S)}\{r_k\} / \mathbf{\Sigma}_{(jik=S)}(1/S)\{r_k\}$,

(6) Topological circle: $(1-\eta_T^2)^{k(Z\pm S\pm(N=\pm,2)\pm(p=\pm2)\pm(q)/t}=\{0 \text{ to } 1\}$.

The total elements($\mathbf{\Sigma}_{(i=S)}\prod_{(i=q)}S=q_{jik}$) whose characteristics are closed in the second-order calculus power function remain unchanged "(N=±2)±(p=±2)±(q) combination", starting from the third term of the original function .

Second-order multivariate calculus-circle logarithm expansion

(4.5.1) $\{(1-\eta^2)\cdot(D_0)\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}=[(1-\eta^2)\cdot(D_0)]^{k(Z\pm S\pm(N=\pm0,)\pm(p)\pm(q)/t}$ $+[(1-\eta^2)\cdot(D_0)]^{k(Z\pm S\pm(N=\pm1)\pm(p)\pm(q)/t}+[(1-\eta^2)\cdot(D_0)]^{k(Z\pm S\pm(N=\pm2)\pm(p)\pm(q)/t}$ $=\{(0 \text{ to } 1)\cdot(D_0)\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}$;

The calculus process is expressed in

(4.5.2) $\underline{(1-\eta^2)}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p=\pm0,1,2)\pm(q=0,1,2)/t}=[\underline{(^S\sqrt{x})}/D_0]^{K(Z\pm S\pm(N-0,1,2)\pm(p-0,1,2)\pm q=0,1,2)/t}$

(4.5.3) $0\le(1-\eta^2)^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p=\pm0,1,2)\pm(q=0,1,2)/t}\le1$;

In the formula: power function k(Z±S±Q±(N=±0,1,2)±(p=±0,1,2)±(q=0,1,2)/t; (zero order , First-order, second-order) calculus equations; $\{q\}\in\{q_{jik}\}$ the total elements remain unchanged, and are combined according to the combination of regions, levels, and multi-media states.

Differential equations are based on(N=*-0,1,2*)±(p=*-0,1,2*) means; integral equation is expressed as dynamic equation with (N=*+0,1,2*)±(p=*+0,1,2*). It is expressed as a differential equation (N=-1，-2),(P=-1，-2) upgraded to (N=±0),(P=±0),(q=±0) with positive feature modulus and circle logarithm $\{X_0\}^{k(Z\pm S\pm(N+1)\pm(p+1))/t}$ is iterated to become the original function (N=-2+2=±0)，(P=-2+2)=±0)("Two Order plus second order", or "two order plus one order plus one order" matrix calculus equation).

In particular, if the calculation power of the calculus equation is composed of 10 consecutive multiplication elements of the group combination, it becomes the calculation power of the decimal system and the carry system,

$$\{2\}^{K(Z\pm S\pm Q\pm M\pm(N=2)\pm(q=10)/t}=\{2\}^{K[10\cdot10\cdot10]}+\{2\}^{K[10\cdot10]}+\{2\}^{K[10]}=\{2\}^{1110}=10^{K(32.6)}$$

Planck Constant. It is 4.8 times that of the "fine-tuning level"10^{229} of the fusion of biology and matter, which is almost equal to the parameter of "Chaos=4.5".

4.6 The relationship between continuous multiplication and continuous addition of calculus group combination

In order to ensure the integer expansion of the calculus power function, the traditional and fixed value "e logarithm"exp's"base" is changed to the element (S) unchanged, and each group ombination can change the combination form $\{x\}=\prod_{(S=q)}\{x_1x_2x_q\}$, to ensure the integer expansion of the power function (time series). This involves the basic model.

Define 4.6.1 the first basic model,

(4.6.1) $\{X_0\}^{K(0)/t}=\{^{KS}\sqrt{\boldsymbol{D}}\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q=0)/t}$;

Definition 4.6.2 The second basic model:

(4.6.2) $\{X_0\}^{K(1)/t}=\sum_{(i=S)}(1/C_{(Z\pm S\pm(N\pm2)\pm(q)})^{+1}\{\prod_{(i=(q\pm2))}(x_i\, x_j)^{+1}\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(1)/t}$;

Definition 4.6.3 Discriminant: Discrete second-order calculus equation

(4.6.3) $(1-\eta^2)^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}=[(^S\sqrt{\alpha})\}/\{D\}]^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}$; $=\{0\text{or}(1/2)\text{or}1\}^{K(Z\pm S\pm(N-1)\pm(p-1)\pm(q))/t}$;

Definition 4.6.4 Discriminant: entangled second-order calculus equation

(4.6.4) $(1-\eta^2)^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}=[(^S\sqrt{\alpha})\}/\{D\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}$; $\neq\{0 \text{ to } 1\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q))/t}$;

Definition 4.6.5 There are two equivalent methods for the rise and fall of calculus order:

(1) First-order calculus $\{X_0\}^{k(Z\pm S\pm(N\pm1)\pm(p)\pm(q))/t}$and (first-order) basic modulus $\{X_0\}^{K(N=1)/t}$ is a combination of rising and falling one step.

(2) The original function $\{X_0\}^{k(Z\pm S\pm(N\pm0)\pm(p)\pm(q))/t}$ and the (zero-order) basic modulus $\{X_0\}\}^{K(N=2)/t}$ The combination of lifting and lowering two stages;

Namely: second-order differential equation: (the original function is reduced by the second order (N=-2); second-order integral equation: (the second-order differential function is increased by the second order(N=+2), and the result is restored to the original function; closure($S=q\ge\{q_{jik}\}$)unchanged.

(4.6.5) $[\{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm(q)/t}/\{X_0\}^{+(N=+2)/t}]^{+1}\cdot\{X_0\}^{+(N=+2)/t}$

$= [\{X_0\}^{+(N=+2)/t} / \{X_0\}^{k(Z\pm S\pm(N)\pm(p)\pm q)/t}]^{-1} \cdot \{X_0\}^{+(N=+2)/t}$
$= [\{X_\odot\}^{k(Z\pm S\pm(N=-2)\pm(p)\pm q)/t} \cdot \{X_0\}^{+(N=+2)/t}$

Move $\{X_0\}^{+(N=+2)/t}$ to the left of the equal sign, and pay attention to the antisymmetric property of the regularized combination coefficient: get the second-order calculus function

Reciprocity theorem:

(4.6.6) $[\{X_0\}^{k(Z\pm S\pm(N=-2)\pm(p)-q)/t}]=[\{X_0\}^{k(Z\pm S\pm(N=+2)\pm(p)+q)/t}$;

Definition 4.6.6 Round Logarithm Calculus:

(4.6.7) $[\{X_0\}^{k(Z\pm S\pm(N)\pm(p))/t}/\{X_0\}^{+(2)/t}]\cdot\{X_0\}^{+(2)/t}=(1-\eta^2)^{K(Z\pm S\pm(N)\pm(p-2)\pm q)/t}\cdot\{X_0\}^{+(2)/t}$;

(1)、 Discrete second-order differential equation($\mathbf{D}=\{\mathbf{D}_0\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$)

(4.6.8) $\{x\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}=\underline{\mathbf{A}(^S\sqrt{x})}^{K(Z\pm S\pm(N-2)\pm(p-0)\pm q)/t}\underline{\pm\mathbf{B}(^S\sqrt{x})}^{K(Z\pm S\pm(N-2)\pm(p-1)\pm q)/t}$
$+\{\mathbf{C}(^S\sqrt{x})D_0\}^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm2)/t}+\ldots\pm D$
$=\{X\pm(^S\sqrt{\mathbf{D}_0})\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$
$=(1-\eta^2)^{K(Z\pm S\pm(N=\pm2)\pm(p)\pm q)/t}\{x_0\pm D_0\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$
$=(1-\eta^2)^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}[\{0,2\}\cdot\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$;

(4.6.9) $(1-\eta^2)^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}=\{0 \text{ or } 1/2 \text{ or } 1\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$;

(2)、Entangled second order differential equation

(4.6.10) $\{x\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}=\underline{\mathbf{A}(^S\sqrt{x})}^{K(Z\pm S\pm(N-2)\pm(p-0)\pm q)/t}\underline{\pm\mathbf{B}(^S\sqrt{x})}^{K(Z\pm S\pm(N-2)\pm(p-1)\pm q)/t}$
$+\{\mathbf{C}(^S\sqrt{x})D_0\}^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm2)/t}+\ldots\pm D$
$=\{X\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$
$=(1-\eta^2)^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}\{x_0\pm D_0\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$
$=(1-\eta^2)^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}[\{0,2\}\cdot(D_0)]^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$;

(4.6.11) $(1-\eta^2)^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}=\{0 \text{ 到 } 1\}^{K(Z\pm S\pm(N-2)\pm(p-2)\pm q)/t}$;

(3)、The combined set of combined calculus becomes

Definition 4.6.7 Second-order multivariate calculus-circle logarithm expansion

(4.6.12) $\{(1-\eta^2)\cdot(D_0)\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}=\mathbf{[}(1-\eta^2)\cdot(D_0)\mathbf{]}^{k(Z\pm S\pm(N=\pm0,)\pm(p)\pm(q)/t}$
$+\mathbf{[}(1-\eta^2)\cdot(D_0)\mathbf{]}^{k(Z\pm S\pm(N=\pm1)\pm(p)\pm(q)/t}+\mathbf{[}(1-\eta^2)\cdot(D_0)\mathbf{]}^{k(Z\pm S\pm(N=\pm,2)\pm(p)\pm(q)/t}+\ldots\mathbf{]}$
$=\{(0 \text{ to } 1)\cdot(D_0)\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm(q)/t}$

In the formula: power function $k(Z\pm S\pm Q\pm M\pm(N=\pm0,1,2)\pm(P)\pm(q)/t$; $\{q\}\in\{q_{jik}\}$; total elements remain unchanged, respectively , Level, multi-media state zero-order plus first-order plus second-order matrix calculus equation. Among them, the second-order differential equation is (N=-0,1,2)±(p) the second-order integral equation is (N=-*0,1,2*)±(p) means.

(4.6.13) $0\leq(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm q)/t}\leq1$;

Expressed as a differential equation(N=-1) upgraded to(N=+1) with a positive basic modulus $\{X_0\}^{k(Z\pm S\pm(N=\pm0,1,2)\pm(p))/t}$, Iterate to become the original function (N=-1+1=±0) or (N=-2+2=±0) (zero-order calculus equation, original function).

Definition 4.6.8 Second-order calculus eigenmode function:

(4.6.14) $\{X_0\}^{K(Z\pm S\pm(N=2)\pm(p)\pm q)/t}=\{X_0\}^{K(Z\pm S\pm(N=2)\pm(p)\pm0))/t}+\{X_0\}^{K(Z\pm S\pm(N=2)\pm(p)\pm1))/t}+\ldots$;

4.6.2. Second-order calculus equation and expansion:

(4.6.15) $\{x_0\pm D_0\}^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm q)/t}=\{x_0\pm D_0\}^{K(Z\pm S\pm(N=\pm0)\pm(p)\pm q)/t}$
$+\{x_0\pm D_0\}^{K(Z\pm S\pm(N=\pm1,2)\pm(p)\pm q)/t}+\{x_0\pm D_0\}^{K(Z\pm S\pm(N=\pm2)\pm(p)\pm q)/t}$
$=\{(0,2)\cdot D_0\}^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm q)/t}$;

4.6.3, the second-order calculus circle logarithmic equation:

(4.6.16) $(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm q)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=\pm0)\pm(p)\pm0)/t}+(1-\eta^2)^{K(Z\pm S\pm(N=\pm1)\pm(p)\pm1)/t}+\ldots$
$+(1-\eta^2)^{K(Z\pm S\pm(N=\pm2)\pm(p)\pm2)/t}+\ldots$;

4.6.4. Matrix expansion of the second-order calculus circle logarithmic equation:

(4.6.17) $(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm q)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=\pm0)\pm(p)\pm q)/t}+(1-\eta^2)^{K(Z\pm S\pm(N=\pm1)\pm(p)\pm q)/t}+\ldots$
$+(1-\eta^2)^{K(Z\pm S\pm(N=\pm2)\pm(p)\pm q)/t}+\ldots$;

Where: each calculus$(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2)\pm(p)\pm q)/t}$ is composed of {q} according to the order generator $\{q_{jik}\}$= {0,1,2...S} group combination item (matrix) expansion.

4.7, high (j) order value calculus equation

The high (j)-order calculus adopts(N=±0,1,2…,j) the combination of the original function and (j ≤S={q}∈$\{q_{jik}\}$) elements of the form to become high-order Differentiation and integration. The (N=±j) order and (S≥N=±j) elements are not repeatedly combined, and become a set of differential and integral (±0 order±1 order±2 order…±j) order respectively.

Suppose: the power function change characteristic "(N≤S)(q≤S) or(N±j)±(p)(respectively representing the parallel/serial region p term) combination", the combination with $\{q\}\in\{q_{jik}\}$, which means that the high-order calculus equation is "wrapped" in the three-dimensional space of the low-order generator. Calculus property function (K=+1,0,-1).

Among them: the reciprocal symmetry of the group combination regularization coefficient (ie calculus: forward -j term combination coefficient = reverse +j term combination coefficient), called singular symmetry.

(4.7.1) $|(1/C_{(Z\pm S\pm(N=j)\pm(p=j)\pm q)})^{-1}| = |(1/C_{(Z\pm S\pm(N=j)\pm(p=j)\pm q)})^{+1}|$;

Proof: (N=±j)-order calculus proof (K=+1,0,-1):

Prove that the combination of calculus (N=±j) order value and term order rises and falls:

Suppose: (N=±j) order adopts basic mode $\{X_0\}^{k(Z\pm S\pm(N=\pm j\pm1)\pm(p\pm j)\pm(q=\pm j))/t}=\{X_0\}^{k(1)/t}$ combination iteration method up and down; $\{X_\Theta\}^{k(j)/t}=\{X_0\}^{k(Z\pm S\pm(N=\pm j)\pm(p=\pm j)\pm(q=\pm j))/t}=\longrightarrow\prod_{(i=(p-j)}\{X_0\}^{k(-1)/t}\cdot\{X_0\}^{k(+1)/t}$;

The change of the order value of the high-order calculus equation is followed by $\{X_0\}^{k(\pm1)/t}$ or $\{X_0\}^{k(\pm j)/t}$ iterative method.

Derive the singular symmetry:

(4.7.2) $[\{X_0\}^{k(Z\pm S\pm(N-j)\pm(p-j)\pm q)/t}/\{X_0\}^{k(j)}]^{+1}\cdot\{X_0\}^{k(+j)/t}$
$= [\{X_0\}^{k(j)}/\{X_0\}^{k(Z\pm S\pm(N-j)\pm(p-j)\pm q)/t}]^{-1}\cdot\{X_0\}^{k(+1)/t}$
$= [(1/C_{(Z\pm S\pm(N\pm j)\pm(p\pm j))})^k\prod_{(i=(N\pm j)}\{x_{(p-j)}^{k(Z\pm S\pm(N-j)\pm(p-j)\pm q)/t}\}]^{-1}\cdot\{X_0\}^{k(+1)/t}$
$= \{X_0\}^{k(Z\pm S\pm(N-j)\pm(p-j)-q)/t}\cdot\{X_0\}^{k(Z\pm S\pm(N-j)\pm(p-j)+q)/t}$

Derive the relative symmetry of the circle logarithm:

(4.7.3) $\{X_0\}^{k(Z\pm S\pm(N-j)\pm(p-j)-q)/t}= (1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}\{X_0\}^{k(Z\pm S\pm(N+j)\pm(p+j)+q)/t}$;

(4.7.4) $\sum_{(i=S)}(1-\eta^2)^{K(Z\pm S\pm(N-j)\pm(p-j)\pm(q=1))/t}=(1-\eta^2)^{K(Z\pm S\pm(N-j)\pm(p-j)\pm(q=j))/t}$
$=[\sum_{(i=S)}[\{X_0\}^{k(Z\pm S\pm(N\pm j)\pm(p\pm j)-\pm(q=-j))/t}]/\{X_0\}^{k(Z\pm S\pm(N\pm j)\pm(p\pm j)-\pm(q=+j))/t}]$
$=\{0\ \text{to}\ 1\}^{K(Z\pm S\pm(N=j)\pm(p=j)\pm(q=j)/t}$;

Combine each calculus order and term into a set or matrix of general order calculus characteristic mode and circle logarithm:

Derive the calculus-circle logarithm equation:

(4.7.5)
$\{x\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N)\pm(p)\pm q)/t}=[\mathbf{A}\mathbf{x}^{K(S-0)/t}+\mathbf{B}(^S\sqrt{\alpha})^{K(S-1)/t}+\mathbf{C}(^S\sqrt{x})^{K(S-2)/t}+\ldots+\mathbf{P}(^S\sqrt{x})^{p}+\mathbf{Q}(^S\sqrt{x})^{(p-2)}+\mathbf{M}(^S\sqrt{x})^{(p-1)}\pm D]^{K(Z\pm S\pm(N)\pm(p)\pm q)/t}$
$=(1-\eta^2)^{K(Z\pm S\pm(N)\pm(p)\pm q)/t}\{x_0\pm D_0\}^{K(Z\pm S\pm(N)\pm(p)\pm q)/t}$
$=[(1-\eta^2)\cdot\{0,2\}\cdot(D_0)]^{K(Z\pm S\pm(N)\pm(p)\pm q)/t}$;

(4.7.6) $\{X_0\}^{K(Z/t)}=\{X_0\}^{K(Z\pm S\pm(N)\pm(p)\pm q)/t}$
$=\{X_0\}^{K(Z\pm S\pm(N\pm0)\pm(p\pm0)\pm(q=0))/t}+\{X_0\}^{K(Z\pm S\pm(N\pm1)\pm(p\pm1)\pm1)/t}+\ldots+\{X_0\}^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}$;

(J)-order calculus circle logarithmic equation:

(4.7.7) $(1-\eta^2)^{K(Z\pm S\pm(N=\pm J)\pm(p)\pm q)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=\pm j)\pm(p)\pm0)/t}+(1-\eta^2)^{K(Z\pm S\pm(N=\pm j)\pm(p)\pm1)/t}$
$+(1-\eta^2)^{K(Z\pm S\pm(N=\pm j)\pm(p)\pm2)/t}+\ldots$;

(J) The calculus circle logarithmic equation matrix (N=±0,1,2...j) is all expanded:

(4.7.8) $(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2\ldots j)\pm(p)\pm q)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2\ldots j)\pm(p)\pm q)/t}$
$+(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2\ldots j)\pm(p)\pm q)/t}+\ldots$

Where: According to each calculus order $(1-\eta^2)^{K(Z\pm S\pm(N=\pm0,1,2\ldots j)\pm(p)\pm q)/t}$ 的(N=±0,1,2…j) and the generator $\{q_{jik}\}$(N=±0,1,2) composed of $\{q_{jik}\}=\{S\}=\{0,1,2\ldots S\}$ group combination item (matrix) expansion.

4.8. The range of the variable interval of the calculus equation (m=±(a to b)

Single variable: $x^s=\Sigma_{(S=s)}(1/s)\Pi_{(S=s)}(x_1x_1\ldots x_1)$;

Group combination: $X_0=\Sigma_{(S=s)}(1/s)(x_1+x_2+\ldots+x_s)$; not necessarily the same.

Unit body: $dx_{(S=s)}={}^{KS}\sqrt{(x_1x_2\ldots x_s)}$; $dx_{(S=s)}=(1-\eta^2)D_{0(S=s)}$;

$dx_{jik}={}^{KS}\sqrt{(x_1x_2\ldots x_s)_{jik}}$; $dx_{jik}=(1-\eta^2)D_{0jik}$;

Definition 4.8.1 Indefinite integral:

(4.8.1) $\int x_{(S=s)}^{(N)}dx=[\Sigma_{(S=s)}(1/C_{(S=s)})^K\mathbf{\Pi}_{(S=P)}(^{KS}\sqrt{(x_1x_2\ldots x_s)^{(N-1)}})^K]|_a^b$
$=(1-\eta^2)\cdot(X_0)^{K(N+1)})]$;

Definition 4.8.2 Definite integral:

(4.8.2) $\int_a^b x_{(S=s)}^{(N)}dx=[\Sigma_{(S=s)}(1/C_{(S=s)})^K\mathbf{\Pi}_{(S=P)}(^{KS}\sqrt{(x_1x_2\ldots x_s)^{(N-1)}})^K]|_a^b$
$=(1-\eta^2)\cdot(X_0)^{K(N+1)})]|_a^b$;

The formula (4.8.2) indicates that the average value of the element is limited to the change between (m)=[a and b]. Including the group combination coefficient $(1/C_{(S\pm N\pm q)})^K$ and the average value of the group element composition

function $\{X_0\}$. (m) The area can be changed or expanded periodically.
Suppose: unknown variable $x^s=\Pi_{(S=s)}(x_1x_1\ldots x_1)$; $D_0=\Sigma_{(S=s)}(1/s)(x_1+x_2+\ldots+x_s)$;
The unit body $\{q\}\in\{q_{jik}\}$ generator is reflected in the boundary condition **D** (in bold), $\{\mathbf{D_0}\}=\{(1/S)\cdot\Sigma_{(SNq)}x_i\}$ represents the average value of the characteristic mode. In calculus, because the order value (±N=1) changes elements, the domain value of the integer change of the element or the multiple of the change (P=±M) the element changes within the M domain value), the combination is infinite (Z); A=1; K=(+1,0,-1) respectively represent positive power function, balance, transfer function, and negative power function. Due to different group combination values, {} is used to indicate group combination.

4.9 Change of order value of calculus equation

The order value of the calculus equation is the "crossover" between the average values of the "group combination" (item order). The power function is (N=±j)±(P=±j)±(q=±j)。(J=0,1,2,…j);

Definition 4.9.1 Zero-order calculus equation order value change(N=±0)±(P=±0)±(q=±0)

(4.9.1) $$\{X\pm\mathbf{D}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm(m)\pm q)/t}=AX^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(m)\pm(P\pm j)-0)/t}$$
$$\pm BX^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm(m)\pm 1)/t}+CX^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm(m)\pm 2)/t}$$
$$+CX^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm(m)\pm p)/t}+\ldots\pm\{{}^{K(s)}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(m)\pm(P\pm j)+0)/t}$$
$$=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm q)/t}\{0,2\}^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm q)/tt}\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm M\pm(N\pm j)\pm(P\pm j)\pm q)/t};$$

Definition 4.9.2 First-order calculus equation order value change (N=±1)±(P=±1)±(q=±1)

(4.9.2) $$\{X\pm\mathbf{D}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm q)/t}=\underline{AX}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(m1\pm(P\pm j)-0)/t}$$
$$\pm BX^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm 1)/t}+CX^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm 2)/t}$$
$$+CX^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm p)/t}+\ldots\pm\underline{\{{}^{K(s)}\sqrt{\mathbf{D}}\}}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(m)\pm(P\pm j)+0)/t}$$
$$=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm q)/t}\{0,2\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm q)/tt}\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm q)/t}$$

(4.9.3) $$\{{}^{K(s)}\sqrt{\mathbf{D}}\}^{K(1)/t}=\{{}^{K(s)}\sqrt{\Pi_{(S=s)}(x_1x_2\ldots x_S)}\}^{K(1)/t}$$
$$=\{{}^{K(s)}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(m)\pm(P\pm j)+0)/t}$$
$$=(1-\eta^2)\{\mathbf{D_0}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(m)\pm(P\pm j)+0)/t};$$

Definition 4.9.3 Second-order calculus equation order value change (N=±2)±(P=±2)±(P=±2)

(4.9.4) $$\{X\pm\mathbf{D}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm q)/t}=\underline{AX}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(m1\pm(P\pm j)-0)/t}$$
$$\pm\underline{BX}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm 1)/t}+CX^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm 2)/t}$$
$$+CX^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm(m)\pm p)/t}+\ldots\pm\{{}^{K(s)}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(m)\pm(P\pm j)+0)/t}$$
$$=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm q)/t}\{0,2\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm q)/tt}\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 1)\pm(P\pm j)\pm q)/t}$$

(4.9.5) $$\{{}^{K(s)}\sqrt{\mathbf{D}}\}^{K(2)/t}=\{{}^{K(s)}\sqrt{\Pi_{(S=s)}(x_1x_2\ldots x_S)}\}^{K(2)/t}$$
$$=\{{}^{K(s)}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 2)\pm(m)\pm(P\pm j)+0)/t}$$
$$=(1-\eta^2)\{\mathbf{D_0}\}^{K(Z\pm S\pm Q\pm M\pm(N\pm 2)\pm(m)\pm(P\pm j)+0)/t};$$

the same reason: can be extended to the analysis and solution of any high-order calculus equation.

The term with a horizontal line at the bottom of the group combination represents the change of the calculus equation.

According to the definition of the generator of the triplet $\{q\}^{K(Z/t)}\in\{q_{jik}\}^{K(Z/t)}$, the logarithm of the circle includes the logarithm of the probability circle, the logarithm of the symmetrical circle at the center zero point, and the logarithm of the topological circle.

(4.9.6) $$(1-\eta^2)^{K(Z\pm S\pm(N\pm j)\pm(p)\pm q)/t}=[(1-\eta_H^2)(1-\eta_\omega^2)(1-\eta_T^2)]^{K(Z\pm S\pm(N\pm j)\pm(p\pm j)\pm q)/t}=\{0\text{ to }1\};$$

Isomorphism of circle logarithms

(4.9.7) $$(1-\eta^2)=(1-\eta^2)^{K(Z\pm 0)/t}=(1-\eta^2)^{K(Z\pm 1)/t}=\ldots=(1-\eta^2)^{K(Z\pm q)/t}=\{0\text{ to }1\};$$

In the above proof process, the traditional calculus (including Riemann integral, Lebesgue measure, real variable function combination, complex variable function, functional analysis and pattern recognition features are still maintained. Finally, they can all be converted into "concentric circles", according to Arithmetic superposition of the circle logarithmic factors of the time series.

5. Solving high-order multivariable calculus equations

5.1. Higher-order calculus-circle logarithm equation

High-order multivariable calculus equations can use a unified circle logarithm algorithm to solve the roots $\{q\}\in\{q_{jik}\}$ of the calculus equations in the interval {0 to 1}. In accordance with the international mathematical problem solving arithmetical analysis rules: only six symbols of "addition, subtraction, multiplication, division, and power generation" can be used for calculation, and it is also necessary to prove that any high-dimensional space "curls" in the low-dimensional generator three-dimensional space, and Find out what kind of integers may exist in three-dimensional and four-dimensional, and solve the problem of any order calculus equation.

When the order value of the calculus equation changes, all the elements $S=\{q\}=\{q_{jik}\}$ remain unchanged: the group combination unit $\{q\}\in$ (attributed to) the triple generator $\{q_{jik}\}$, so that the calculus equation is The roots of zero-order equations can be solved. Among them: there are properties (K); the level of regional distribution tree-like distribution: (S) (first level, zero-order calculus, probability); ±Q (two levels, corresponding to first-order calculus, weight); ±M(Three levels, corresponding to second-order calculus, potential energy), and t (shared time series) composition. Order value (±N=0,1,2,...J, natural number); group combination unit element {±q}; triplet generator $\{q_{jik}\}$; triplet consists of three generating elements: (element (x_j) ·Probability weight (ω_i)·Topological potential energy (r_k) composition; unknown boundary conditions $\{^{K(s)}\sqrt{(x_1x_2\ldots x_S)}\}^{K(Z\pm S\pm Q\pm M\pm N\pm P\pm q)/t}=\{\mathbf{x}\}$; Known boundary conditions $\{^{K(s)}\sqrt{\mathbf{D}}\}^{K(Z\pm S\pm Q\pm M\pm N\pm P\pm q)/t}=\mathbf{D}$; polynomial coefficients (A,B,C,...), including The group combination regularization combination coefficient $(1/C_{(S\pm Q\pm M\pm N\pm P\pm q)})^K$; characteristic mode (average value of positive, medium and negative power functions) $\{x_0\}^{K(Z\pm S\pm Q\pm M\pm N\pm P\pm q)/t}$， $\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm M\pm N\pm P\pm q)/t}$.

Among them: $\mathbf{D}_{(A)}$, $\mathbf{D}_{0(A)}$或 $\mathbf{D}_{(B)}$,$\mathbf{D}_{0(B)}$ is a function that can be decomposed into two resolution asymmetry analytic functions.

The establishment of the calculus equation has at least the following three known conditions:

(1) Informing the number of elements(S), calculus, and level form (±N);

(2). Inform the boundary conditions, nature and rules: **D**; or $\mathbf{D}=\mathbf{D}_{(A+B)}$ (parallel) or D=D(AB) (serial);

(3) Tell the arithmetic average of the elements: $\mathbf{D}_0=\mathbf{D}_{0(A+B)}$ (parallel) or $\mathbf{D}_{0(AB)}$ (serial).

With these three parameters, it can be analyzed and solved by the logarithm of the "probability -topology-center zero point symmetry" circle. Among them, calculus-circle logarithm can make calculation software and chip architecture.

Definition 5.1.1 High-order multivariable calculus equation (S=S)

(5.1.1) $$\{x\pm(^{K6}\sqrt{\mathbf{D}})\}^{K(Z\pm(S)\pm(N)\pm(q)/t}=ax^{K(Z\pm(S)\pm(N)\pm(q)/t-(0)/t}\pm bx^{K(Z\pm(S)\pm(N)\pm(q)/t-(1)/t}+cx^{K(Z\pm(S)\pm(N)\pm(q)/t-(2)/t}\pm ex^{K(Z\pm(S)\pm(N)\pm(q)/t-(3)/t}+fx^{K(Z\pm(S)\pm(N)\pm(q)/t-(f)/t}\pm\ldots\ldots+\mathbf{D}$$
$$=[(1-\eta^2)\cdot(0\text{ 或 }2)\cdot\{\mathbf{D_0}\}]^{K(Z\pm(S)\pm(N)\pm(q)/t};$$

Define 5.1.2 two kinds of calculation results:

(1), Zero balance: means zero balance, conversion, rotation, subtraction, vector (angular momentum) addition, complex variable function

(5.1.2) $$\{x-(^{K6}\sqrt{\mathbf{D}})\}^{K(Z\pm(S)\pm(N)\pm(q)/t}=[(1-\eta^2)\cdot(0)\cdot\{\mathbf{D_0}\}]^{K(Z\pm(S)\pm(N)\pm(q)/t};$$

(2), Big balance: it means balance, precession, addition, vector (angular momentum) addition, real variable function.

(5.1.3) $$\{x+(^{K6}\sqrt{\mathbf{D}})\}^{K(Z\pm(S)\pm(N)\pm(q)/t}=[(1-\eta^2)\cdot(2)\cdot\{\mathbf{D_0}\}]^{K(Z\pm(S)\pm(N)\pm(q)/t};$$

When:(N=±0,1,2,3) ; {q}={qjik}, (N≥±4) ; $\{q\}\in\{q_{jik}\}$;

5.2. The relationship between group combination coefficients and polynomial coefficients

The Euler product formula stipulates arithmetic symbolic calculation, and there is another condition: the solution of the root must have a close relationship between the group combination coefficient and the polynomial coefficient. For the closed group combination, the number of elements($S=\{q\}\in\{q_{jik}\}$), the average$\{\mathbf{D_0}\}$, and the known boundary (expectation) function D are constant. It has the advantages of tightly known conditions, high stability, high anti-interference, good stability, accurate analysis, reliable calculation, simple and unified method.

Definition 5.2.1Unknown element {X) and known element$(^{K(S)}\sqrt{\mathbf{D}})$: $\mathbf{D}=\mathbf{D}_{(AB)}=\{^{K(s)}\sqrt{(x_1x_2\ldots x_S)}\}^{K(S)}$;

$[\{X)=(^{K(s)}\sqrt{\mathbf{D}})]^{K(Z\pm S\pm Q\pm M\pm(N=\pm 0)\pm(P=0)\pm q))/t}$; {q} corresponds to the original function $\{q_{jik}\}$ zero-order calculus function);

$[\{X)=(^{K(s)}\sqrt{\mathbf{D}})]^{K(Z\pm S\pm Q\pm M\pm(N=\pm 1)\pm(P=1)\pm q)/t}$; {q} probability corresponds to$\{q_{jik}\}$ First-order calculus function;

$[\{X)=(^{K(s)}\sqrt{\mathbf{D}})]^{K(Z\pm S\pm Q\pm M\pm(N=\pm 2)\pm(P=2)\pm q)/t}$; {q}topological correspondence$\{q_{jik}\}$ Second-order calculus function;...;

$[\{X)=(^{K(s)}\sqrt{\mathbf{D}})]^{K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=j)\pm q)/}$; {q} group combination corresponding (∈) Triple generator$\{q_{jik}\}$;

Under the condition of known boundary$\mathbf{D}=\{\mathbf{D}_{(A+B)}\ \mathbf{D}_{(AB)}\}$, the corresponding calculus (N=±j)±(P=j) $(^{K(s)}\sqrt{\mathbf{D}})^{K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=j)\pm q)/t}$;

Definition 5.2.2 Known (S) element average value and polynomial coefficient:

$$\{\mathbf{D}_0)^{K(Z\pm S\pm Q\pm M\pm(N=0)\pm(P)\pm(q=0)/t}=(A)/C_{(Z\pm S(N=\pm 0)};\ \{\mathbf{D}_0)^{K(Z\pm S\pm Q\pm M\pm(N=1)\pm(P)\pm(q=1)/t}=(B)/C_{(Z\pm S\pm(N=\pm 1)},$$
$$\{\mathbf{D}_0)^{K(Z\pm S\pm Q\pm M\pm(N=2)\pm(P)\pm(q=2)/t}=(C)/C_{(Z\pm S\pm(N=\pm 2)},\ldots;$$
$$\{\mathbf{D}_0)^{K(Z\pm S\pm Q\pm M\pm(N=j)\pm(P)\pm(q=j)/t}=(P)/C_{(Z\pm S\pm(N=\pm J)};$$

Definition 5.2.3 Circle logarithm calculus:

$$(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N=0)\pm(P)\pm(q=0)/t}=(^{KS}\sqrt{\mathbf{D}})/\{\mathbf{D}_0)^{K(0)/t};$$
$$(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N=1)\pm(P)\pm(q=1)/t}=(^{KS}\sqrt{\mathbf{D}})/\{\mathbf{D}_0)^{K(1)/t};$$
$$(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N=2)\pm(P)\pm(q=2)/t}=(^{KS}\sqrt{\mathbf{D}})/\{\mathbf{D}_0)^{K(2)/t};$$
$$(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm(N=J)\pm(P)\pm(q=J)/t}=(^{KS}\sqrt{\mathbf{D}})/\{\mathbf{D}_0)^{K(j)/t};\ \ldots;$$

Definition 5.2.4 circle logarithm equation calculus equation combination term:

(5.2.1) $(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm P)/t}=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm 0)/t}+(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm 1)/t}$
$+(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm 2)/t}+\ldots+(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm P)/t}$;

Definition5.2.5 logarithmic isomorphism of the combination term calculus equation:

(5.2.2) $(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm P)/t}=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm 0)/t}=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm 1)/t}$
$=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm 2)/t}=\ldots=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm P)/t}$;

The formulas (5.2.1)-(5.2.2) indicate that the logarithm of a circle is a constant logarithm based on the basic circle function. In other words, any high-order calculus equation can be normalized to the linear arithmetic analysis, calculation, verification, judgment, and cognition of the logarithmic factor of the circle.

Definition 5.2.6 circle logarithm domain value:

(5.2.3) $(1-\eta^2)^{K(Z)/t}=\{{}^{K(S)}\sqrt{\mathbf{D}}/\{\mathbf{D}_0\}^{K(Z)/t}=({}^{K(S)}\sqrt{X})/\{\mathbf{D}_0\}^{K(Z)/t}=\{0\text{ to }1\}^{K(Z)/t}$;

Definition 5.2.7 Discriminant equation properties:

Discrete type:

(5.2.4) $(1-\eta^2)^{K(Z)/t}=[{}^{K(S\pm N)}\sqrt{\mathbf{D}/\mathbf{D}_0}]^{K(Z)/t}=\{0\text{ or }(1/2)\text{ or }1\}^{K(Z)/t}$;

Entangled:

(5.2.5) $(1-\eta^2)^{K(Z)/t}=[{}^{K(S\pm N)}\sqrt{\mathbf{D}}/\{\mathbf{D}_0\}^{K(Z)/t}=\{0\text{ to }1\}^{K(Z)/t}$;

Definition 5.2.8 logarithmic equation of the probability circle of unit :

(5.2.6) $(1-\eta_H^2)^{K(Z)/t}\{\mathbf{D}_0\}^{K(Z)/t}=[(1-\eta_{ah}^2)+(1-\eta_{bh}^2)+\ldots+(1-\eta_{ph}^2)]^{K(Z)/t}=\{1\}^{K(Z)/t}$;

Definition 5.2.9 logarithmic equation of center zero point symmetric probability circle:

(5.2.7) $(1-\eta_\omega^2)^{K(Z)/t}=[\Sigma_{(\mathbf{S=+q})}(1-\eta_{a\omega}^2)^{+1}+\Sigma_{(\mathbf{S=-q})}(1-\eta_{b\omega}^2)^{-1}]^{K(Z)/t}=\{0\}^{K(Z)/t}$;

Definition 5.2.10 symmetry of circle logarithmic factor

(5.2.8) $(\eta_\omega)^{K(Z)/t}=[\mathbf{\Sigma}_{(\mathbf{S=+q})}(+\eta_{a\omega})+\mathbf{\Sigma}_{(\mathbf{S=-q})}(-\eta_{b\omega})]^{K(Z)/t}=\{0\}^{K(Z)/t}$;

the root can be solved by applying the symmetry relation of formula(5.2.8)

5.3. The relationship between parallel (continuous addition) and serial (continuous multiplication) of polynomials:

Definition 5.3.1 The element {qjik} corresponds to the known boundary conditions {D} and the relationship of {D0}, which depends on the feature mode composition rule. Parallel (continuous addition) and serial (continuous multiplication) $\{\mathbf{D}=\mathbf{D}_{(A+B)}=\mathbf{D}_{(A)}+\mathbf{D}_{(B)}\}$; $\{\mathbf{D}=\mathbf{D}_{(AB)}=\mathbf{D}_{(A)}\cdot\mathbf{D}_{(B)}\}$; $\{\mathbf{D}_0=\mathbf{D}_{0(A+B)}=\mathbf{D}_{0(A)}+\mathbf{D}_{0(B)}\}$ and $\{\mathbf{D}_0=\mathbf{D}_{0(AB)}=\mathbf{D}_{0(A)}\cdot\mathbf{D}_{0(B)}\}$ state. The calculation method of calculus equation dimension and circle logarithm remains unchanged. Through the center zero point symmetry processing, it becomes an asymmetry analytic function with a resolution of two, and becomes two relatively symmetric matrix analytic functions that can overlap or linearly connect at the center zero point (parallel/serial).

Definition 5.3.2 Parallel (continuous addition) $\{\mathbf{D}=\mathbf{D}_{(A+B)}=\mathbf{D}_{(A)}+\mathbf{D}_{(B)}\}$:

(5.3.1) $\{\mathbf{D}\}=\mathbf{\Sigma}_{(i=S)}\mathbf{\Pi}_{(i=p)}\{\mathbf{D}_i\}^{K(Z\pm S\pm Q\pm M\pm(N)\pm(P)\pm(m)\pm qjik=q))/t}$
$=(1-\eta^2)\{\mathbf{D}_{0(A+B)}\}]^{K(Z\pm S\pm Q\pm M\pm(N)\pm(P)\pm(m)\pm qjik=q))/t}$;

Definition 5.3.3 Serial (continuous multiplication) $\{\mathbf{D}=\mathbf{D}_{(AB)}=\mathbf{D}_{(A)}\cdot\mathbf{D}_{(B)}\}$:

(5.3.2) $\{\mathbf{D}\}=\mathbf{\Pi}_{(i=S)}\mathbf{\Pi}_{(i=p)}\{\mathbf{D}_i\}^{K(Z\pm S\pm Q\pm M\pm(N)\pm(P)\pm(m)\pm qjik=q))/t}$
$=(1-\eta^2)\{\mathbf{D}_{0(AB)}\}]^{K(Z\pm S\pm Q\pm M\pm(N)\pm(P)\pm(m)\pm qjik=q))/t}$;

5.4. The symmetric relationship between the roots of the calculus equation and the center zero point:

Definition 5.4.1. The root $\{q_{jik}=x\}$ of the calculus equation is obtained by the distribution of the logarithmic factor of the probability circle;

(5.4.1) $\{x_j\}=\{q_{jik}\}=\{(1-\eta_{Hj}^2)\{\mathbf{D}_{0jik}\}^{K(Zjik=q))/t}$;

Definition 5.4.2, calculus equation weight$\{q_{jik}=x_j\omega_i\}$to obtain the logarithm of the center zero point circle, expressed as the first-order calculus equation $(1-\eta_\omega^2)=(0,\ 1/2,\ 1)$;

The logarithm of the center zero-point circle{1/2} makes the symmetrical circle logarithmic factor balance appear on both sides of the center point of the balance of the probability distribution. The roots of the multi-element probability distribution can be quickly solved by using the symmetry of the center zero-point circle log .

(5.4.2) $\{\omega_i\}=\{q_{jik}/x_j\}=\{\omega_i x_j/x_j\}=\{(1-\eta_{\omega i}^2)\{\mathbf{D}_{0j}\}^{K(Z)/t}$;

(5.4.3) $\mathbf{\Sigma}_{(S=+q)}\{+\omega_i\}+\mathbf{\Sigma}_{(S=-q)}\{-\omega_i\}=0$;

(5.4.4) $\mathbf{\Sigma}_{(S=+q)}(+\eta_{\omega i}^2)\{\mathbf{D}_{0jik}\}^{K(Z)/t}+\mathbf{\Sigma}_{(S=-q)}(-\eta_{\omega i}^2)\{\mathbf{D}_{0ji}\}^{K(Z)/t}=0$;

5.5. The relationship between the roots of the calculus equation and the logarithm of the topological circle:

Definition 5.5.1. The root element of the calculus equation $\{q\}=\{q_{jik}\}$ is calculated by the factor arithmetic calculation of the central zero point-probability-logarithm of the topological circle to find the root solution.

(5.5.1) $\{q\}^{K(Z)/t}\in\{q_{jik}=x_j\omega_i r_{kj}/\omega_i x\}=(1-\eta_T^2)D_{0jik}\}^{K(Z)/t}$;

(5.5.2) $\boldsymbol{\Sigma}_{(S=+q)}(1-\eta_T{}^2)^{+1}+\boldsymbol{\Sigma}_{(S=-q)}(1-\eta_T{}^2)^{-1}=0$;

(5.5.3) $\boldsymbol{\Sigma}_{(S=+q)}(+\eta_T)\{\mathbf{D}_{0jik}\}^{K(Z)/t}+\boldsymbol{\Sigma}_{(S=-q)}(-\eta_T)\{\mathbf{D}_{0ji}\}^{K(Z)/t}=0$;

The logarithm of the circle is isomorphic. The calculus with high-dimensional power dimension has the center zero. The logarithm of the circle {1/2} makes the topological circle logarithm of symmetry on both sides of the distribution center point in the topology and probability. Factor balance. Using the symmetry of the center zero topology, the roots of multi-element topology and probability distribution can be quickly solved. Among them, the topological center zero point can be equivalently replaced or moved by the center zero point to form a homeomorphic "concentric circle (ring)" of serial line superimposition or a "parallel circle (ring)" of parallel serial center zero points.

(5.5.4) $(1-\eta^2)^{K(Z)/t}=(1-\eta_H{}^2)^{K(Z)/t}=(1-\eta_\omega{}^2)^{K(Z)/t}=(1-\eta_T{}^2)^{K(Z)/t}=\{0 \text{ to } 1\}^{K(Z)/t}$;

Definition 5.5.2, the homeomorphism "concentric circles (rings)" of the zero point of the serial superposition center

(5.5.5) $(1-\eta^2)^{K(Z)/t}=(1-\eta_1{}^2)^{K(Z)/t}+(1-\eta_2{}^2)^{K(Z)/t}+\ldots+(1-\eta_q{}^2)^{K(Z)/t}=\{0 \text{ to } 1\}^{K(Z)/t}$;

Definition 5.5.3, "Parallel circle (ring)" at the center zero point of parallel series

(5.5.6) $(1-\eta^2)^{K(Z\pm(N))/t}=(1-\eta^2)^{K(Z\pm S\pm(N)\pm1)/t}+(1-\eta^2)^{K(Z\pm S\pm(N)\pm2)/t}+\ldots+(1-\eta^2)^{K(Z\pm S\pm(N)\pm q)/t}=\{0 \text{ to} 1\}^{K(Z)/t}$;

5.6, Calculus equation geometry-algebraic space conversion

The calculus equations are converted into characteristic modes and logarithms of circles, which are controlled and arranged by the time series to perform periodic rotation and precession to form the expansion of the high-dimensional vortex space. Behaves as:

(1), establish $\{(1-\eta^2)\cdot(\mathbf{D_0})\}=\{[(1-\eta^2)^{+1}\cdot(1-\eta^2)^{-1}]\cdot(\mathbf{D_0})\}^{K(Z\pm S\pm qjik=q))/t}$

It means the topological change through the central zero point and equivalent, reflecting the group combination to the central zero point and the boundary state. There are serially superimposed "concentric circles (rings)" and parallel series of homeomorphic "parallel circles (rings)".

(2), establish$(1-\eta^2)^{\pm1}=\{[(1-\eta)\cdot(1+\eta)](\mathbf{D_0})\}^{K(Z\pm S\pm qjik=q))/t}$ ellipse major axis (1+ η), the five-dimensional-six-dimensional-high-dimensional vortex structure of the topology and probability distribution of the ellipse's minor axis (1-η) geometric ellipse.

Among them:

(a),$(1-\eta^2)^{+1}$ represents the precession, vector addition, and angular momentum addition of the line, surface, and sphere of the geometric ellipse of the positive power function.

(b), $(1-\eta^2)^{-1}$ represents the rotation, vector subtraction, and angular momentum subtraction of the line, surface, and sphere of the geometric ring of the inverse power function.

(c), $(1-\eta^2)^{\pm1}$ represents the balance between the geometric ellipse and the ring of the positive and inverse power function.

(d), $(1-\eta^2)^{\pm0}$ represents the zero point conversion between the geometric ellipse and the ring of the positive ↔ middle ↔ inverse power function.

(3) Establish the periodic rotation (difference, subtraction) and precession (sum, addition) of the five-dimensional-six-dimensional-high-dimensional geometric graph code structure.

(e) According to the time series$K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=\pm j)\pm(m)\pm(q_{jik}=q))/t$ corresponding characteristic mode ($\mathbf{D_0}$) The arithmetic is uniform, symmetric, continuous, and discrete arithmetic pitch vortices are developed.

(f) According to the power function $\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=\pm j)\pm(m)\pm(qjik=q))/t}$, the ratio is Uniform, symmetrical, continuous, discrete and equal-pitch vortex unfolds.

(g), according to the power function $\{D_0\}^{K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=\pm j)\pm(m)\pm(q=qjik))/t}$proportional to The arithmetic is uniform and non-uniform, symmetric and asymmetric, continuous and non-continuous, random and non-random, non-proportional and asymmetric mixed pitch vortex development.

(h),according to the power function$\{\mathbf{D}_0\}^{K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=\pm j)\pm(m)\pm(qjik=q))/t}$corresponding characteristic mode$\{\mathbf{D}_0\}=\{\mathbf{D}_{0(A+B)}\}$ or $\{\mathbf{D}_0\}=\{\mathbf{D}_{0(AB)}\}$, is the vortex distance of parallel and serial, regular and irregular, fractal and chaos (or multi-region, multi-level, multi-direction and multi-angle rotation and progression The mixed development of moving high-dimensional vortex structure.

Among them: the power function reflects the exponential or linear expansion of the calculus equation, and reflects the high computing power, high anti-interference, high self-supervision and analytical accuracy of the logarithm of the circle. $K(Z\pm S\pm Q\pm M\pm(N=\pm j)\pm(P=\pm j)\pm(m)\pm(q=q_{jik}))/t$shorthand $\{\mathbf{D}_0\}^{K(Z)/t}=\{\mathbf{D}_0\}^{K(Z\pm S\pm N\pm q)/t}$; (S±Q±N) represents the area or level, calculus and other interaction ranges; (m) represents the range of element changes in definite calculus; $\pm(q\in q_{jik})/t$ represents the change form of element and group combination and time.

5.7. [Example 1] Sixth order (zero-order,first-order, second-order) calculus equations in one variable

The six-order (zero-order, first-order, second-order) calculus equation of one variable is expressed by a power function (time series): there are (S) dimensional (S=6) prime numbers in the (Q) region in the infinite (Z) element Or the group combination of continuous addition, the elements are combined without repetition, and they are respectively composed (one-variable six-order calculus dynamic equation (calculus zero-order (N=±0), first-order (N=±0,1), and second-order (N=±0,1,2), high-order (N=0,1,2...5). In the change of calculus order value, the dimension and composition rules always remain unchanged (S=6={q }∈{q_{jik}}), the power function is K(Z±Q±(S=6)±(N=0,1,2)±(q∈q_{jik})/t, boundary condition (or password notification)**D** and average Value$\mathbf{D}_0$ composition (including parallel/serial composition rules).

Due to space limitations, in order to facilitate the (hand calculation) understanding of the circle logarithm algorithm, choose a simple unknown value **D** of the continuous multiplication of six prime numbers as an example. Emphasis on the relationship between the equation unit body {q}={X and the triplet generator{q_{jik}}=$\mathbf{\Sigma}_{(S=6)}\prod_{(q=p)}$**{**$X_{jik}$**}**{q}∈{$q_{jik}$} represents high-dimensionality Space{q} constricts (mapping, attribution) in the space {q_{jik}} of the generator of low-dimensional triples (zero-order, first-order, and second-order calculus). Discussed through the one-variable six-order calculus equation: initial conditions (zero Order); the application of velocity, momentum (first order), acceleration, and energy (second order) is related to the evolution of the universe and high-energy particle experiments in physics.

Known: six prime numbers (S={q}=6); the average value of the six prime numbers $\mathbf{D}_0$={7}; boundary condition D=(45045), three conditions establish the generator of the triplet of the one-variable six-order calculus equation {q_{jik}=3} proceed (N=±0,1,2) (zero-order, first-order, second-order),

Solving:

(1), Arithmetic calculation, using only six arithmetic symbols of "addition, subtraction, multiplication, division, and power extraction" to calculate (N=±0,1,2) (zero-order or first-order or second-order) calculus equations The root.

(2), The calculation results of the calculation equations, as well as the analytical results of balance, rotation, precession, convergence, and expansion.

Solution: Analysis: Q represents a "six tuple (S=6)" group combination of infinite elements in the Q region.

Refer to calculation conditions:

Power dimension group combination of elements: S=(q=6)∈$\{q_{jik}\}^{K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2)\pm(qjik)/t}$;

Logarithm of probability circle :$(1-\eta_H^2)^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(qjik)/t}=\{1\}^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(qjik)/t}$;

Symmetry circle logarithm: $(1-\eta_\omega^2)^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(qjik)/t}=\{1/2\}^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(qjik)/t}$; Topological circle logarithm: $(1-\eta_T^2)^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(qjik)/t}=\{0\text{ to }1\}^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(qjik)/t}$;

Average: $\mathbf{D}_0$=B/S=B/6={7}; B=42; $\mathbf{D}_0^{K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2)\pm(qjik)/t}$=117649;

Group combination (S=6) unit body: $(^6\sqrt{\mathbf{D}})=(^6\sqrt{45045})^{K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2)\pm(qjik)/t}$;

Triple generator {q_{jik}=3}: group combination corresponds to calculus order value (N=±0,1,2); group combination form (q=0,1,2,3) means "0+0,1 +1, 2+2, 3+3" is equivalent todx, d^2x, d^3x and $\int^{(1)}f'(x)dx$, $\int^{(2)}f''(x)\,d^2x$, $\int^{(3)}f'''(x)d^3x$; Unary six-order calculus dynamic equation: [K(Z±Q±**(S=6)**±(N=±0,1,2)±(p)±(m)±(q∈{q_{jik}})]/t;

Definition 5.7.1 composition of one-variable sixth-order equation: satisfy the binomial (also can be expressed in a matrix) expansion

(5.7.1) $$\{x\pm(^{K6}\sqrt{\mathbf{D}})^{K(Z\pm(S=6)\pm(N=\pm0,1,2)\pm(q)/t}\}=ax^{K(Z\pm(S=6)\pm(N=\pm0,1,2)-(0)/t}$$
$$\pm bx^{K(Z\pm(S=6)\pm(N=\pm0,1,2)-(1)/t}+cx^{K(Z\pm(S=6)\pm(N=\pm0,1,2)-(2)/t}$$
$$\pm ex^{K(Z\pm(S=6)\pm(N=\pm0,1,2)-(3)/t}+fx^{K(Z\pm(S=6)\pm(N=\pm0,1,2)-(4)/t}\pm gx^{K(Z\pm(S=6)\pm(N=\pm0,1,2)-(5)/t}+\mathbf{D}$$
$$=\{(1-\eta^2)\{x\pm(^{K6}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=6)\pm(N=\pm0,1,2)\pm(q)/t};$$

(5.7.2) $(1-\eta^2)=\{0\text{ to }1\}$;

The distribution of the combination coefficients of the regularization term of the one-variable hexadecimal equation: （1；6；15；20；15；6；1）；a=1；

Equation sum combination coefficient: $\{2\}^6$=64；

Symbol [] The internal function is in the form of first-order and second-order calculus equations.

5.7.1, Sixth order zero-order calculus dynamic equation in one variable

Definition 5.7.2 **Q** area discriminant:

$(1-\eta^2)=(^6\sqrt{\mathbf{D}})/\mathbf{D_0}$=45045/117649=0.382876≤1； it belongs to entangled calculation.

The principle of regularized reciprocity: the central zero point is the vertex at {1/2}, the symmetry of the combination coefficients of the two measurement groups and the circle logarithm factor and the asymmetry between the numerical value and the geometric position.

$$x_0^{K(Z\pm Q\pm(S=6)\pm(N=0)-(0)/t}=\mathbf{D}_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(0)/t};$$
$$x_0^{K(Z\pm Q\pm(S=6)\pm(N=0)-(5)/t}=\mathbf{D}_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(1)/t};\ \ldots;$$

At the zero point of the regularization center or at the maximum value of the topological energy:

$$x_0^{K(Z\pm Q\pm(S=6)\pm(N=0)-(q=S/2=3))/t}=\mathbf{D}_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q=S/2=3))/t}; \quad \ldots。$$

Logarithm of isomorphism circle:

$$(1-\eta^2)=\{x_0/D_0\}^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(0))/t}=\{x_0/D_0\}^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(0))/t}$$
$$=\{x_0/D_0\}^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(1))/t}=\{x_0/D_0\}^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(2))/t}=\ldots$$
$$=\{x_0/D_0\}^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(5))/t};$$

Zero-order calculus equation: (N=±0); (qjik=3 triples)

(5.7.3) $$\{x\pm({}^{K6}\surd 45045)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(qjik))/t}=ax^{K(Z\pm Q\pm(S=6)\pm(N=0)-(0))/t}$$
$$\pm bx^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(5))/t}+cx^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(4))/t}$$
$$\pm dx^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(3))/t}+ex^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(2))/t}$$
$$\pm fx^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(1))/t}+\mathbf{D}$$
$$=[x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(0))/t}\pm 42x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(5))/t}+630\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(4))/t}$$
$$\pm 6860\cdot x^{K(Z\pm Q\pm S\pm(N=0)\pm(3))/t}+36015\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(2))/t}$$
$$\pm 100842\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(1))/t}$$
$$+({}^{K6}\surd 45045)^{K(Z\pm Q\pm(S=6)\pm(N=0)+(6))/t}$$
$$=x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(0))/t}\pm 6\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(5))/t}\cdot D_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(1))/t}$$
$$+15\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(4))/t}\pm 20D_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(3))/t}\cdot x^{K(Z\pm Q\pm S\pm N\pm(3))/t}$$
$$+15D_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(4))/t}\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(2))/t}\cdot D_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(2))/t}$$
$$\pm 6\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm\pm(1))/t}\cdot D_0^{K(Z\pm Q\pm(S=6)\pm(N=0)+(5))/t}$$
$$+({}^{K6}\surd 45045)^{K(Z\pm Q\pm(S=6)\pm(N=0)+(6))/t}$$
$$=[x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(0))/t}\pm 6x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(5))/t}\cdot D_0^{(+1)}$$
$$+15\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(4))/t}\cdot D_0^{(+2)}\pm 20\cdot x^{K(Z\pm Q\pm S\pm N-(3))/t}\cdot D_0^{(+3)}$$
$$+15\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(2))/t}\cdot D_0^{(+4)}\pm 6\cdot x^{K(Z\pm Q\pm(S=6)\pm(N=0)-(1))/t}\cdot D_0^{(+5)}$$
$$+(7)^{K(Z\pm Q\pm(S=6)\pm(N=0)+(6))/t}]$$
$$=(1-\eta^2)^{(\pm 6)/t}[x_0^{(-6)/t}\pm x_0^{(-5)/t}/D_0^{(+5)/t}\cdot D_0^{(+6)}+x_0^{(-4)/t}/D_0^{(+4)/t}\cdot D_0^{(+6)}\pm x_0^{(-3)/t}/D_0^{(+3)/t}\cdot D_0^{(+6)}$$
$$+x_0^{(-2)/t}/D_0^{(+2)/t}\cdot D_0^{(+6)}\pm x_0^{(-1)/t}/D_0^{(+1)/t}\cdot D_0^{(+6)}+(7)^{(+6)/t}]$$
$$=\{(1-\eta^2)\cdot\{x_0\pm(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q))/t}$$
$$=\{(1-\eta^2)\cdot\{(0,2)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q))/t};$$

In the derivation of formula (5.7.1), in order to save space, the abbreviated power function is used to express. $D_0^{(+6)}D_0^{(+5)}\ldots D_0^{(+0)}$ all represent the combination form of group combination, which is different from the multiplication of elements in the traditional mathematical meaning.

Formula (5.7.1) Two calculation results:

(1), Zero balance: means zero balance, conversion, rotation, subtraction, vector (angular momentum) addition, complex variable function

(5.7.4) $$\{x-({}^{K6}\surd 45045)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(qjik))/t}=\{(1-\eta^2)\cdot(0)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(qjik))/t};$$

(2), Big balance: it means balance, precession, addition, vector (angular momentum) addition, real variable function.

(5.7.5) $$\{x+({}^{K6}\surd 45045)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(qjik))/t}=\{(1-\eta^2)\cdot(2)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(qjik))/t};$$

5.7.2, one-variable six-order first-order calculus dynamic equation (N=±1);（q_{jik}=±1 triples);

(5.7.6) $$\underline{\mathbf{ax}}^{K(Z\pm Q\pm(S=6)\pm(N-1)\pm((q=0))/t}【\pm bx^{K(Z\pm Q\pm(S=6)\pm(N-1)\pm(5))/t}+cx^{K(Z\pm Q\pm(S=6)\pm(N-1)\pm(4))/t}$$
$$\pm dx^{K(Z\pm Q\pm(S=6)\pm(N=1)\pm(3))/t}+ex^{K(Z\pm Q\pm S\pm(N=1)\pm(2))/t}\pm\mathbf{fx}^{K(Z\pm Q\pm S\pm(N=1)\pm(1))/t}+\underline{\mathbf{D}}】$$
$$=【\pm 42x^{K(Z\pm Q\pm S\pm(N=1)\pm(5))/t}+630x^{K(Z\pm Q\pm S\pm(N=1)\pm(4))/t}\pm 6860x^{K(Z\pm Q\pm S\pm(N=1)\pm(3))/t}$$
$$+[36015x^{K(Z\pm Q\pm S\pm(N=1)\pm(2))/t}\pm[100842x=({}^{K6}\surd 45045)]^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(1))/t}】$$
$$=\{\{x\pm({}^{K6}\surd 45045)\}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1)+(p=-1)+(q=qjik))/t}$$
$$=\{(1-\eta^2)\cdot\{x_0\pm(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1)+(p=-1)+(q=qjik))/t}$$
$$=\{(1-\eta^2)\cdot\{(0,2)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1)+(p=-1)+(q=qjik))/t};$$

5.7.3,one-variable six-order second-order calculus dynamic equation(N=±2); (q_{jik}=±2 triples)

(5.7.7) $$\underline{ax}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)-(q=0))/t}\pm\underline{bx}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)-(q=5))/t}$$
$$+【cx^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)-(q=4))/t}\pm dx^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)-(q=3))/t}$$
$$+[ex=({}^{K6}\surd D)]^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)-(q=2))/t}】\pm\underline{fx}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)-(q=1))/t}+\underline{\mathbf{D}}$$
$$=【+630x^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)\pm(-4))/t}\pm[6860x^{(+2)}=\underline{({}^{K6}\surd 45045)}]^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)\pm(2))/t}】$$
$$=\{\{x\pm({}^{K6}\surd 45045)\}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)+(q=qjik))/t}$$
$$=\{(1-\eta^2)\cdot\{x_0\pm(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)+(q=qjik))/t}$$
$$=\{(1-\eta^2)\cdot\{(0,2)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2)+(q=qjik))/t};$$

5.7.4,one-variable six-order third-order calculus dynamic equation(N=±3); (q_{jik}=±3 triples)

(5.7.8) $ax^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)-(q=0)/t}\pm bx^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)-(q=5)/t}+cx^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)-(q=4)/t}$

【$\pm dx^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)-(q=3)/t}=(^{K6}\sqrt{\mathbf{D}})]^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)+(q=3)/t}$】

$+ex^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)-(q=2)/t}\pm fx^{K(Z\pm Q\pm(S=6)\pm(N=-0,1,2,3)-(q=1)/t}+\mathbf{D}$

= 【$+630x^{K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2,3)\pm(-3)/t}\pm[(^{K6}\sqrt{45045})^{(+2)K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2,3)+(3)/t}$】

$=\{\{x\pm(^{K6}\sqrt{45045})\}^{K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2,3)+(q=qjik))/t}$

$=\{(1-\eta^2)\cdot\{x_0\pm(7)\}^{K(Z\pm Q\pm(S=6)(N=\pm0,1,2,3)+(q=qjik))/t}$

$=\{(1-\eta^2)\cdot\{(0,2)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=\pm0,1,2,3)+(q=qjik))/t}$;

5.7.5. Four results of the relative symmetry equation

(1) ,Represents balance: $\{x-(^{K6}\sqrt{45045})\}$ The result of the equation is$(\pm0)^{K(Z\pm Q\pm(S=6)(N=\pm0,1,2)\pm(qjik)/t}$;

(2), Representing rotation: $\{x-(^{K6}\sqrt{45045})\}$ The result of the equation is$(2)^{K(Z\pm Q\pm(S=6)(N=\pm0,1,2)+(qji=1)/t}$;

(3),Represent precession: $\{x+(^{K6}\sqrt{45045})\}$ The result of the equation is $(2)^{K(Z\pm Q\pm(S=6)(N=\pm0,1,2)+(qji=1)/t}$;

(4), Representing the vortex space:

$\{x\pm(^{K6}\sqrt{45045})\}$The result of the equation is$(0,2)^{K(Z\pm Q\pm(S=6)(N=\pm0,1,2)\pm(qjik=q)/t}$;

(5) Representation conversion:

$\{x\pm(^{K6}\sqrt{45045})\}$ The result of the equation is$(\pm1)^{K(Z\pm Q\pm(S=6)(N=\pm0,1,2)\pm(qjik)/t}$;

5.7.6, with discriminant:

(1), It belongs to discrete calculation$(1-\eta^2)^{K(Z\pm Q\pm(S=6)\pm(N=2)\pm(qjik)/t}=1$;

(5.2.9) $(1-\eta^2)^{K(Z\pm Q\pm(S=6)\pm(N\pm2)\pm(6)/t}\{(7/7\}^{K(Z\pm Q\pm(S=6)\pm(N=2)\pm(qjik)/t}=1$;

(2), It belongs to entangled calculation$(1-\eta^2)^{K(Z\pm Q\pm(S=6)\pm(N=2)\pm(qjik)/t}\neq1$;

(5.2.10) $(1-\eta^2)^{K(Z\pm Q\pm(S=6)\pm(N\pm2)\pm(6)/t}\{(^{K6}\sqrt{45045}/7\}^{K(Z\pm Q\pm(S=6)\pm(N\pm2)\pm(qjik)/t}\neq1$;

5.7.7. Calculate the symmetry of the center zero point:$x_4=[(1-\eta_4^2)D_0=7$; （S=6）; the six elements are the average value$D_0=7$;

(5.2.11)$\mathbf{\Sigma}_{(S=q)}(1-\eta_H^2)^{K(Z\pm Q\pm(S=6)\pm(N\pm2)\pm(qjik)/t}=\mathbf{\Sigma}_{(S=+q)}(1-\eta_H^2)^{+(Z)/t}+\mathbf{\Sigma}_{(S=-q)}(1-\eta_H^2)^{-(Z)/t}$;

Discriminant: central zero point:$(\eta^2)=(^6\sqrt{\mathbf{D}})/\mathbf{D_0}$=45045/117649=0.382876→16/42 (the numerator is an integer);

Cause: from all the elements(B=6$\mathbf{D_0}$) and $\mathbf{D}_0$=42, the symmetry distribution of the circle logarithm: the element of a central zero element measured twice is resolved into a combination of two asymmetric groups and converted into two symmetry circle logarithms Factor combination, the level span is $(1/2)^2$;

$(\eta^2)=(1/2)^2(^6\sqrt{\mathbf{D}})/\mathbf{D_0}=(1/2)^2(45045/117649)=(1/2)^2 0.382876$→10/42 (select integer for numerator);

Through the central zero point, η^2=16/60 is tested (not satisfied), and η^2=10/60 is tested again (balance and symmetry can be satisfied).

$(1-\eta_H^2)\mathbf{B}=[(1-\eta_1^2)+(1-\eta_2^2)+(1-\eta_3^2)]+[(1\pm\eta_4^2)]-[(1-\eta_5^2)+(1-\eta_6^2)]42$

$=[(1-4/7)+(1-4/7)+(1-2/7)]+[(1\pm7/7)]-[(1+4/7)+(1+6/7)]42$

=(10/42)-(10/42)=0; (satisfying the condition of equilibrium and symmetry).

Get: One yuan six times because (S=6) does not change, (N=±0,1,2) the roots of the calculus equation are six prime numbers are also unchanged:

$x_1=(1-\eta_1)D_0=(1-4/7)7=3$;

$X_2=(1-\eta_2)D_0=(1-4/7)7=3$;

$X_3=(1-\eta_3)D_0=(1-2/7)7=5$;

$X_4=(1\pm\eta_4)D_0=(1\pm7/7)7=7$;

$X_5=(1+\eta_1)D_0=(1-4/7)7=11$;

$X_6=(1+\eta_1)D_0=(1-6/7)7=13$;

Verification (1): $\mathbf{D}=(3\cdot3\cdot5\cdot7\cdot11\cdot19)=45045$; $\mathbf{D}_0=(1/6)(3+3+5+7+11+19)=7$;

Verification (2): $\{x_0-(7)\}=(1-\eta)[7^{K(Z\pm Q\pm(S=6)\pm(N=0)-(6)/t}-6\cdot7^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(5)/t}$

$+15\cdot7^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(4)/t}-20\cdot7^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(4)/t}$

$+15\cdot7^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(2)/t}-6\cdot7^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm\pm(1)/t}$

$+(7)^{K(Z\pm Q\pm(S=6)\pm(N=0)+(6)/t}]=0$; (calculated)

5.7.8. Discussion:

Attempt to discuss the relationship between the circle logarithm algorithm and physical mathematical calculations, explain the evolution of the universe and high-energy physics and the phenomenon of non-conservation of parity caused by vacuum zero point excitation.

（1）、$(1-\eta^2)^{\pm1}=\{7/7\}^{\pm1}\leq1$ (representing balance, energy conversion (between positive and negative)); "(K=+1) positive convergence variable entangled state "; (Such as gravitational force, nuclear weak force effect).

（2）、$(1-\eta^2)^{+1}=\{(3,3,5)/7\}^{+1}\leq1$ (indicating that the gravitational force and the weak nuclear force converge to the center); "(K= -1) negative expansion can be Change the entangled state"; (such as electromagnetic force, nuclear force).

（3）、$(1-\eta^2)^{-1}=\{(11,13)/7\}^{-1}\geq 1$ (representing the electromagnetic force, the nuclear force expands to the boundary conditions, and the vacuum excitation energy). "The quality of (K=±1) neutral invariable dispersion)"; (such as photon force, temperature, center zero point balance, conversion, sudden change).

（4）、The maximum energy of the vacuum excitation of the universe or high-energy physics $(1-\eta^2)^{-1}=\{7/13\}^{-1}\geq 1$;

5.8.1. [Discussion 1] Calculation of the digital simulation of the mass of the universe

Digital simulation: 5 natural numbers {1,2,(3),4,5}, average value (D0A=3), DA=243 with inactive properties] and 6 prime numbers [{3,3] ,5,(7),11,13}, average (D0B=7), DB=45045, two analytical parallel spaces with entanglement activity]. (S=5+6=11) dimensional power, of which 5 are natural numbers and belong to inactive elements, indicating that the nature of the element remains unchanged; 6 prime numbers are active elements with entanglement, indicating that the nature of the element will change (called ionic state); Because it is an ionic state, convergence and expansion occur in the calculus equation.

The above known conditions can be written as three calculus equations;

(1), One-variable 5-th order calculus equation: (N=0,1,2); $\mathbf{D}_{0A}=3$; $\mathbf{D_{0A}}=3^5=243$;

(5.8.1) $$\{x\pm(\sqrt[K5]{243})\}^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)+(qjik)/t}=ax^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)\pm(0)/t}$$
$$\pm bx^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)-(4)/t}+cx^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)\pm(3)/t}$$
$$\pm ex^{K(Z\pm Q\pm(S=56)\pm(N=0,1,2)\pm(2)/t}+fx^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)\pm(1)/t}+\mathbf{D_A}$$
$$=\{(1-\eta_5^2)\cdot\{x_0\pm(3)\}^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)+(q))/t}$$
$$=\{(1-\eta_5^2)\cdot(0,2)\cdot(3)\}^{K(Z\pm Q\pm(S=5)\pm(N=0,1,2)+(q))/t};$$

Discriminant: $(1-\eta_5^2)^{\pm 1}=\{x_0/(3)\}=1$; (discrete calculation example)

(2), One-variable 6th order calculus equation: (N=0,1,2); $\mathbf{D}_{0B}=7$; $\mathbf{D_{0B}}=7^6=117649$; $\mathbf{D_B}=45045$;

(5.8.2) $$\{x\pm(\sqrt[K6]{45045})\}^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)+(qjik)/t}=ax^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)-(0)/t}$$
$$\pm bx^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(5)/t}+cx^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(4)/t}$$
$$\pm ex^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(3)/t}+fx^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(2)/t}$$
$$\pm gx^{K(Z\pm Q\pm(S=6)\pm(N=0,1,2)\pm(1)/t}+\mathbf{D_B}$$
$$=\{(1-\eta_6^2)\cdot\{x_0\pm(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q))/t}$$
$$=\{(1-\eta_6^2)\cdot(0,2)\cdot(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q))/t};$$

Discriminant:

$(1-\eta_6^2)^{-1}=\{x_0/(7)\}\geq 1$; ; (Example of diffusive entanglement calculation) (K=-1);

$(1-\eta_6^2)^{+1}=\{x_0/(7)\}\leq 1$; ; (Convergent entangled calculation example) (K=+1);

(3), One-variable 11-th order calculus equation: (N=0,1,2); $\mathbf{D}_{0(A+B)}=\mathbf{D}_{0A}+\mathbf{D}_{0B}$; $\mathbf{D}=\mathbf{D}_A+\mathbf{D}_B$; (example of parallel calculation in mixed mode)

(5.8.3) $$\{x\pm(\sqrt[K5]{\mathbf{D}})\}^{K(Z\pm Q\pm(S=11)\pm(N=0)+(qjik)/t}=\{x\pm(\sqrt[K5]{243})\}^{K(Z\pm Q\pm(S=5)\pm(N=0)+(qjik)/t}$$
$$+\{x\pm(\sqrt[K6]{45045})\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(qjik)/t}$$
$$=\{(1-\eta_A^2)\cdot\{x_0\pm(3)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q)/t}+\{(1-\eta_B^2)\cdot\{x_0\pm(7)\}^{K(Z\pm Q\pm(S=6)\pm(N=0)+(q)/t}$$
$$=\{(1-\eta_{(A+B)}^2)\cdot\{x_{0(A+B)}\pm[(3)+(7)]\}^{K(Z\pm Q\pm(S=11)\pm(N=0)+(qA+qB)/t}$$
$$=\{(1-\eta_{(A+B)}^2)\cdot(0,2)\cdot[(3)+(7)]\}^{K(Z\pm Q\pm(S=11)\pm(N=0)+(qA+qB)/t};$$

Special: 11 values (S=11) form a highly parallel space {q}, which is crimped in a three-dimensional generator space $\{q_{jik}\}$: zero-order has balance, conversion, and rotation; first-order dynamic speed, momentum, and rotation; Second-order dynamic acceleration, energy, precession, and radiation. The zero-order, first-order, and second-order calculus equations comprehensively describe the vortex precession (radiation) of the universe and quantum particles, which has been confirmed in the light experiment by the United States-Spain joint team in 2018.

(A) , Calculation of the universe or high-energy physical matter

The maximum energy of the universe or high energy physics is simulated by numbers {1,2,(3),4,5}+{3,3,5,(7),11,13}

(1) The average value of 5 natural numbers {1,2,(3),4,5}, average value{3}, which constitutes the largest inactive unchanging bright mass;

$[(1-\eta_5^2)\cdot\{\mathbf{D}_{05}\}]^{\pm(Z\pm(S=5)\pm(N=0,1,2)\pm(5)/t}=(1-\eta_5^2)\cdot 3^5=(1-\eta_5^2)\cdot 243$; The logarithm of the circle $(1-\eta^2)^{\pm 1}=1$ represents the maximum value:

$$(1-\eta^2)^{\pm 1}=\{3/3\}^{\pm(Z\pm(S=5)\pm(N)-(qjik=5)/t}=1.$$

(2) The average value of 6 prime numbers {3,3,5,(7),11,13} average value{7} logarithm represents the conversion value:

Logarithmic characteristics of circle: $(1-\eta_6^2)^{\pm 0} \to (1-\eta_6^2)^{-1}$;

Characteristic mode: $\{7^6\} \to \{\mathbf{13^6}\}$; represents the expansion of vacuum excitation energy;

The logarithm of the circle$(1-\eta_6^2)^{\pm 0}$=(0) indicates the vacuum energy excitation conversion point of the active element (ion state):

$$(1-\eta^2)^{\pm 0}=\{7/7\}^{\pm(Z\pm(S=5)\pm(N)-(qjik=6)/t}=(0);$$

$$[(1-\eta_6^2)^{\pm 0}\cdot\{\mathbf{D}_{06}\}]^{\pm(Z\pm(S=5)\pm(N)\pm(6)/t}=(1-\eta_6^2)\cdot 7^6=(1-\eta_6^2)\cdot 117649;$$

$$[(1-\eta_6^2)^{-1}\cdot\{\mathbf{13}\}]^{-(Z\pm(S=6)\pm(N)-(qjik=6)/t}=(1-\eta_6^2)^{-1}\cdot 13^6=(1-\eta_6^2)^{-1}\cdot 4526809;$$

Among them: the example of the one-variable six-order calculus equation describes the three states corresponding to the composition properties, and "there is no specific mass element calculation, and the arithmetic calculation is performed in the closed [0 to 1] interval".

(B), vacuum excites the largest asymmetric matter

According to the maximum energy of the 6 prime active variable entangled states (1-η2)-1={13} and the invariant neutral inactive invariant discrete state maximum energy, they together form the maximum energy. Among them, the second-order (N=-2) value of calculus represents the characteristics of energy, force, acceleration and so on.

$$\{D_{05}+D_{06}\}^{\pm 2}\in[(1-\eta_6^2)^{-1}\cdot\{\mathbf{13}\}]^{-(Z\pm Q\pm(S=6)\pm(N=-2)-(6)/t}+[(1-\eta_5^2)^{\pm 1}\cdot\{3\}^5]^{0(Z\pm Q\pm(S=5)\pm(N=-2)-(5)/t}$$

$$=4826809;$$

Clear quality (mass and energy): $\{2\cdot[D_{05}+D_{06}]\}=2\cdot(117649+243)=235784$;

Dark energy (mass energy): $\{[13^6-\{\{2\cdot[D_{05}+D_{06}]\}=4826809-235784=4591012$;

(C) The ratio of bright matter to dark matter;

$\{2\cdot[D_{05}+D_{06}]\}:\{\mathbf{13^6}\}$ = 235784: 4591012

=4.88488% : 95.11519%(same as astronomical observation data)

Among them: the reason for the appearance of “2” is that the rotation of the balance equation （0,2） plus precession becomes the energy of vortex radiation.

5.8.2. [Discussion 2] Digital simulation calculation of parallel/serial universe boundary

Digital simulation of parallel/serial universe {1,2,3,4,5} and {3,3,5,7,11,13} unary five and six calculus equations.

Known condition **1**: Five natural numbers {1,2,3,4,5};

$$\{(1-\eta^2)=\{3/(^{K5}\sqrt{243})\}^{K(Z\pm Q\pm M\pm\mathbf{(S=5)}\pm(N=0,1,2)\pm(qjik)/t},$$

the average value is {3}, the characteristic modulus value and the circle logarithm of the fifth order calculus equation in one variable.

Known condition **2** : six prime numbers {3,3,5,7,11,13};

$$\{(1-\eta^2)=\{7/(^{K5}\sqrt{45045})\}^{K(Z\pm Q\pm M\pm\mathbf{(S=6)}\pm(N=0,1,2)\pm(6jik)/t}$$

average value {7}, the characteristic modulus value and circle logarithm of the one-variable six-order calculus equation.

Known condition **3**: Parallel/serial universe 11-dimensional space characteristic mode and circle logarithm $(1-\eta^2)^{K(Z\pm Q\pm M\pm\mathbf{(S=11)}\pm(N=0,1,2)\pm(qjik)/t}$

According to three known conditions, an 11-dimensional characteristic mode is formed, and an elliptical orbit is formed by a parallel/serial three-layer tree $\{q\}=(S\pm Q\pm M)/t\in\{q_{jik}\}/t$ shared time series (Wave function), radiation, etc., carry out the orderly expansion of speed, acceleration, kinetic energy, energy, and force.

Among them, the circle logarithm of parallel/serial itself has isomorphic consistency and invariance with the calculation time. The change lies in the composition of the boundary conditions $\mathbf{D=D_5+D_6}$ or$\mathbf{D_0=D_{05}+D_{06}}$, which belongs to (parallel) continuous addition or (serial) Multiply. And through the topological movement of the central zero point, a "concentric circle" of the homeomorphism of the superimposed central zero point or a "parallel circle" connecting the central zero point in series is formed. With a consistent central zero point, it can be expanded symmetrically according to a common time series.

Such as the "S=5+6=11" dimensional carry system and place value-bit energy system of the universe. Dynamic three-level tree group combination, composed of [(11*11*11)+(11*11)+(11)]=[1331+121+11]=1463 power, total combination coefficient: $\{2\}^{1331/t}$to $\{2\}^{1463/t}$. Equivalent to (boundary) 10^{-266} to (all) 10^{-292} greater than 10-229 cosmic boundary level "fine tuning.""Fine-tuning." The value represents the smallest physical constant of the universe (central cosmic particle).

"Fine-tuning." This number can satisfy the physicist Lee Smalling has calculated that the probability that a number compatible with life appears by chance is 10^{-229}. Physicists call it the "fine-tuning" of life physics.

Famous scientists such as Martin Rees, Alan Gus, Max Tegmark-believe that this proves that we live in a parallel universe. The digital simulation shows that the calculus equation is described by the logarithm of the circle and becomes the proof of any finite time series. The parallel universe world is finally contained in a huge, infinite time series three-dimensional world.

When the "concentric circles" are the infinite boundaries of the universe (large enough prime numbers), it will be infinitely small, mutually balanced, transformed, neutral round bubbles of "cosmic porridge soup", collectively referred to as "dark matter, dark energy" (for now, human beings are temporarily Not all can be measured).

(5.8.1) $(1-\eta_{\Omega}{}^2)\cdot\{\mathbf{D_{\Omega}}\}]^{K(Z\pm Q\pm M\pm(S=11)\pm(N=0,1,2)\pm(q)/t}\in[(1-\eta^2)^K\{\mathbf{D_{\Omega}}\}]$;

(5.8.2) $(1-\eta_{\Omega}{}^2)^{K(Z\pm Q\pm M\pm(S=11)\pm(N=0,1,2)\pm(q)/t}\in(1-\eta^2)^{K(Z\pm Q\pm M\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}=\{0 \text{ to } 1\}$;

Where: $\{\mathbf{D_{\Omega}}\}$ represents the total mass of the universe. K=+1 infinite convergence of the universe; K=-1: infinite expansion of the universe; K=±0(±1): infinite balance or zero-point transition.

5.9.1, [Discussion 3], the energy ratio of the digital analog universe

The universe {1,2,3,4,5} and {3,3,5,7,11,13} digital simulation energy. In the eigenmode $\{D_0=7\}$ unchanged, there is {3+3+5+7+11+13=42} composing "entangled active material ions", vacuum excited $(1-\eta^2)^{+0}$ and $(1-\eta^2)^{-0}$ produces positive and negative local asymmetry (including vortex, vortex ring) mass-space, energy, expansion force, contraction force, which is called "parity non-conservation". Meet the quality of the universe-space, energy, symmetry (vortex, vortex ring).

(1), Asymmetric sexual energy produced by vacuum excitation

Dark energy: $(1-\eta^2)^{K(Z\pm Q\pm(S=-6)\pm(N)-(6)/t}=\{\mathbf{13/7}\}^{K(Z\pm Q\pm(S=-6)\pm(N)-(6)/t}$

$\{\mathbf{D}_{06}\}^{\pm1}\in[(1-\eta^2)^{-1}\cdot\{7\}]^{-(Z\pm Q\pm(S=-6)\pm(N)-(6)/t}=13^6=4826809$;

(2), The ratio of light energy to dark energy;

Bright energy: $\{\mathbf{D}_{05}+\mathbf{D}_{06}\}^{\pm0(Z\pm Q\pm(S=11)\pm(N)-(qjik)/t}=(117649+243)=117892$;

(5.9.1) $\{\mathbf{D}_{05}+\mathbf{D}_{06}\}^{\pm0:}$: $\{\mathbf{13^6}\}=117892$：4826809;

=1**:**40.937889 (the radiant energy of the same high-energy particle collision test data is increased by 40 times);

5.9.2. [Discussion 4]. Conservation of cosmic digital simulation energy

Conservation of energy in the universe {1,2,3,4,5} and {3,3,5,7,11,13}

(5.9.2) $(1-\eta_{\Omega}{}^2)^{\pm1(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}=[(1-\eta_{\Omega}{}^2)^{+1}\cdot(1-\eta_{\Omega}{}^2)^{-1}]^{(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}=1$;

(5.9.3) $(1-\eta_{\Omega}{}^2)^{\pm1}\mathbf{D_{\Omega}}=\mathbf{D_{\Omega}}$,

5.9.3. [Discussion 5],The interaction of the universe's digital and analog forces:

The interaction between the universe {1,2,3,4,5} and {3,3,5,7,11,13} digital analog force: The formula (5.9.3) reflects that the force interaction belongs to the evolution of the universe The "second-order calculus equation" lies in the arithmetic calculation of the logarithm of the circle:

(3) The convergence of the gravitational equation: $\{(1-\eta_{\Omega}{}^2)^{+1}\}^{K(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}\leq1$;

(Forward) gravity + (reverse) gravity + (neutral) gravity space composition:

(5.9.4) $(1-\eta_{\Omega}{}^2)^{+1}=\{(1-\eta_{\Omega}{}^2)^{+1}\}=(1-\eta_{\Omega}{}^2)^{+1}+(1-\eta_{\Omega}{}^2)^{\pm0}+(1-\eta_{\Omega}{}^2)^{-1}=\{0 \text{ 到 } 1\}$;

(4) The expansion of the electromagnetic force equation of quantum theory:

$\{(1-\eta_{\Omega}{}^2)^{-1}\}^{K(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}\geq1$;

(Forward) electromagnetic force + (reverse) electromagnetic force + (neutral) electromagnetic force space composition:

Quantum theory Maxwell's equation of electromagnetic force is written in logarithmic form:

(5.9.5) $(1-\eta_{\Omega}{}^2)^{-1}=(1-\eta_{\Omega[yz]}{}^2)^{+1}\mathbf{i}+(1-\eta_{\Omega[zx]}{}^2)^{\pm0}\mathbf{j}+(1-\eta_{\Omega[xy]}{}^2)^{-1}\mathbf{k}=\{0 \text{ 到 } 1\}$;

(6) Neutral light quantum: {(1-ηΩ2)±1}K(Z±(S=11)±(N=0,1,2)±(qjik)/t=1;

(Forward) photon power + (reverse) photon power + (neutral) photon power space composition:

Quantum theory Maxwell's equation of electromagnetic force is written in logarithmic form:

(5.9.6) $(1-\eta_{\Omega}{}^2)^{\pm1}=(1-\eta_{\Omega[yz]}{}^2)^{+1}\mathbf{i}+(1-\eta_{\Omega[zx]}{}^2)^{\pm0}\mathbf{j}+(1-\eta_{\Omega[xy]}{}^2)^{-1}\mathbf{k}=\{0 \text{ 到 } 1\}$;

(7) Balance and conversion of force: $\{(1-\eta_{\Omega}{}^2)^{\pm0}\}^{K(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}=1$;

The space composition of forward force + (reverse) light quantum force + (neutral) light quantum force:

(5.9.7) $\{(1-\eta_{\Omega}{}^2)^{\pm0}\}^{K(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}=\{(1-\eta_{\Omega}{}^2)^{+0}\}\cdot\{(1-\eta_{\Omega}{}^2)^{-0}\}^{K(Z\pm(S=11)\pm(N=0,1,2)\pm(qjik)/t}$,

5.9.4. [Discussion 6] The evolution of digital simulation of the universe:

The evolution of the universe {1,2,3,4,5} and {3,3,5,7,11,13} digital simulation: the evolution of the universe generates energy conservation including local unconserved transformations: astronomical observation and high energy physics It can be described by the logarithm of the circle: trying to explain:

The expansion force of the universe is much greater than the contraction force:

…→shrink energy$(1-\eta)\ \mathbf{D_{\Omega}}{}^2)^{+1}\leq1$→reach the "first vacuum center singularity$(1-\eta)\ \mathbf{D_{\Omega}}{}^2)^{+0}=1$" called "black hole" conversion to produce vacuum excitation$(1-\eta)\ \mathbf{D_{\Omega}}{}^2)^{\pm0}=1$, Called "wormhole" → excite the unconserved expansion energy$(1-\eta_{\Omega}^{2})^{-0}\geq 1$ called "white hole", → through the "second vacuum singularity $(1-\eta)$ $\mathbf{D}_{\Omega}^{2})^{-1}\geq 1$", the conversion produces contraction energy….

The overall universe maintains the law of conservation of energy. The characteristic modes of the total mass of the universe $\{\mathbf{D}_{\Omega}\}$ remain unchanged at all levels and regions, and their evolution is described by the logarithm of the circle:

(5.9.8) $(1-\eta_{\Omega}^{2})^{K}=\ldots\leftrightarrow(1-\eta_{\Omega}^{2})^{+1}\leftrightarrow(1-\eta_{\Omega}^{2})^{+0}\leftrightarrow(1-\eta_{\Omega}^{2})^{\pm 0}\leftrightarrow(1-\eta_{\Omega}^{2})^{-0}\leftrightarrow(1-\eta_{\Omega}^{2})^{-1}\leftrightarrow\ldots$;

5.9.5. Discussion results:

Choose the smallest five natural numbers and the smallest six prime numbers to form the calculus equation or characteristic model of each level group combination. Through the calculation and verification of the above multiple questions, it can simulate the evolution of the universe and the energy conversion of high-energy physical particles, and observe astronomy. , The results of the particle collision experiment are surprisingly similar. Is it a coincidence or is it true? Or can the 11 smallest numbers be the smallest unit composed of the universe and particles or physical constants?

6. One-variable seven-order calculus equations and elements and spaces of clustering sets

6.1. Group Combination-Elements and Space of Cluster Set

Various phenomena in nature are expressed as infinite (Z) elements (x) called probability distribution and primary space$(x_j\omega_i)$, called weight, velocity, momentum, first-order calculus; secondary space$(x_j\omega_i r_k)$ called topology, acceleration, The relationship between force, energy, and second-order calculus. The unit body composed of {q} elements has$\{q\}=(S\pm Q\pm M\pm N\pm\ldots q)\in$ which expresses the element and combination relationship in the region $\{q_{jik}\}$ which expresses the weight of the space and the topological relationship. The asymmetry group combination is converted into the symmetric symmetry group combination through the logarithm of the circle, and the relative symmetry expansion and distribution in each direction is carried out with the central zero point as the origin.

The key question here is how to reform the traditional calculus equation to adapt to the infinite calculus equation? How does the connection between numbers and disciplinary elements, as well as various discrete and entangled (including parallel/serial) space-times unfold in relative symmetry?

Drawing lessons from the clustering algorithm of "pattern recognition", it is extended to the concept of cluster set-group combination (multivariate calculus). In order to connect with the computer, the relationship between the logarithm equation of the circle of seven-degree calculus of one yuan and the cluster set is proposed, and the generator of the cluster set triple is called the unit body concept,$\{q\}\in\{q_{jik}\}=\{x_j\omega_i r_k\}$"Element (x_j)·weight (ω_i)·potential energy(r_k)" basic group combines the unit body concept, establishes (zero-order, first-order, second-order) calculus equations, and becomes closed without specific element content [0 to 1] calculation. In fact, it is the analysis and calculation of how the parallel/serial high-dimensional space is constricted in the low-dimensional triplet generator space through the symmetrical symmetry of the center zero point. The description of the logarithm of the circle is called "independent mathematical model, unsupervised" calculation in the computer.

6.2, one-variable seven-order calculus dynamic equation

Hilbert raised a "13th question" in 1900. His content is: Can the solution of the seventh degree equation be parsed into two analytic functions? "Abel-Ruffini Impossibility Theorem" tells us that there is no "general formula for finding roots" for polynomial equations of degree 5 and higher. This so-called "general" is strictly defined in mathematics, that is, "only includes 6 operations including addition, subtraction, multiplication, division, power, and square extraction."

In 1957, two Soviet mathematiciansAndrei Kolmogorov and Vladimir Arnold proved that the 7th degree equation can be simplified to the superposition of two "continuous functions". However, many mathematicians believe that Hilbert's problem should be an "algebraic function" and can only be said to be "semi-solved". So far, no breakthrough progress has been made.

The positive significance of the one-variable seven-order calculus dynamic equation (which can be expressed by a matrix): lies in the analysis of high parallel multi-media states (such as natural language, audio, video, etc.). Only by emphasizing the concept of relative symmetry of the center zero can the All kinds of "asymmetry converted to relative symmetry"; through parallel/serial composition of "central zero to boundary" or "boundary to central zero" transmission, monitoring, etc. to form a synchronous system in the form of "probability-topology-central zero" Unfold.

6.2.1. [Example] One-variable seven-order calculus dynamic equation

Known: the number of prime elements S=7; the average value of S prime numbers ($\mathbf{D}_0$=9); boundary conditions(**D**=1426425);

The composition resolution is two analytical function($\mathbf{D_3=x_3=x_1x_2x_3}$ and $\mathbf{D_4=x_4=x_4x_5x_6x_7}$ which respectively form parallel($\mathbf{D_A=D_3+D_4}$) and serial($\mathbf{D_B=D_3\cdot D_4}$)high-order calculus-circle pairs Number equation. The central zero point corresponds to the average value: $\mathbf{D_0=B/(S)=(9)}$; It proves that the parallel algorithm is consistent with the serial circle logarithm algorithm, but the result is different (it can be written as a matrix).

Solving: using two resolution parallel/serial algebraic functions (including zero-order (probability), first-order (weight, center zero symmetry), second-order (potential energy, topology) calculus equations), all can be solved **7** root elements.

Suppose: polynomial coefficient B=7$\mathbf{D}_0$; $\{X\}=(^7\sqrt{\mathbf{D}})=(^7\sqrt{1426425})$; $\mathbf{D}_0=9^7=4782969$;

unknown element: $\{x\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm P\pm m\pm(q))/t}$,

known elements:D=$\{^7\sqrt{1426425}\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m\pm(q))/t}$, (Readers can use the same algorithm and replace them with other values respectively to verify the dynamic equations of the seventh order of the unary to the second order of the unary calculus.

Calculation tool: student (12-digit) computer.

Regularization combination coefficient: (1:7:21:35:35:21:7:1),

The sum of coefficients $\{2\}^7=128$,

Power function: $K(Z)t=K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=0))/t$;

Tree-shaped three-level computing power, power function Exp:

$$Exp=(S=7)+(S\cdot Q=7\cdot 7)+(S\cdot Q\cdot M=7\cdot 7\cdot 7)=7+49+343=399;$$

The equation is: $\{2\}^{399}$(qubit) $=10^{79.8}$ power. Expressing "seven tuples (ie: group combination of seven elements)" three-level tree-like high-dimensional sub-equation $\{q=2\}^{399}$, curl∈in the low-dimensional subspace of the "three-tuple generator" $\{q_{jik}=8\}^{399}$

Among them: (N=±0,1,2) zero-order, first-order, second-order calculus; (K) function properties; (Z) infinity; (Q=7*7) second-level tree; (M =7*7*7) The third-level tree; (S) the first-level tree; (m) the range of element variation, called the definite calculus area; the number of {q} element group combinations; triple generation The element and space formed by the three basic elements (variables, weights, topology) corresponding to the number of element group combinations of element$\{q_{jik}=x_j\omega_i r_k\}$; dynamic system (t).

Discriminant: $(1-\eta^2)=(^7\sqrt{1426425})/9=1426425/4782969=0.298230=19/63\leq 1$;

it belongs to entangled calculation.

(6.2.1)
$$ax^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=0))/t}\pm bx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m\pm(q=1))/t}$$
$$+cx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m\pm(q=2))/t}\pm dx^{K(Z\pm Q\pm(S=6)\pm(N=0)\pm(q=3))/t}$$
$$+ex^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m\pm(q=4))/t}\pm fx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m\pm(q=5))/t}$$
$$+gx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m\pm(q=6))/t}\pm\mathbf{D}$$
$$=x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=0))/t}\pm 63x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=1))/t}$$
$$+189x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=2))/t}\pm 315x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=3))/t}$$
$$+315x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=4))/t}\pm 189x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=5))/t}$$
$$+63x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=6))/t}\pm(^7\sqrt{1426425})^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m+(q=0))/t}$$
$$=x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=0))/t}\pm 7\{\mathbf{D_0}\cdot x\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=1))/t}$$
$$+21\{\mathbf{D_0}\cdot x\}x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=2))/t}\pm 35\{\mathbf{D_0}\cdot x\}x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=3))/t}$$
$$+35\{\mathbf{D_0}\cdot x\}x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=4))/t}\pm 21\{\mathbf{D_0}\cdot x\}x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=5))/t}$$
$$+7\{\mathbf{D_0}\cdot x\}x^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=6))/t}\pm(^7\sqrt{1426425})^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m+(q=0))/t}$$
$$=\{\{x\pm(^7\sqrt{1426425})\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=qjik))/t}\leq$$
$$=\{(1-\eta^2)\cdot\{x_0\pm(9)\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=qjik))/t}$$
$$=\{(1-\eta^2)\cdot\{(0,2)\cdot(9\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=qjik))/t};$$

Among them: the regularized distribution makes: (q=-0))=(q=+0); (q=-1))=(q=+6); (q=-2))=(q=+5). In actual calculations, the power function can be abbreviated, only retaining the element dimension, the region where it is located, and the order of calculus.

6.2.2. According to the formula (6.2.1), the calculation result has the following three states:

(1) Corresponding to zero-order calculus equations: original function, probability, rotation, mutation, center zero, balance, circle, ring, vector subtraction,...;

(6.2.2)
$$\{\{x\pm(^7\sqrt{1426425})\}^{K(Z\pm Q\pm M\pm(S=7)\pm(\mathbf{N=0})\pm(P)\pm m-(q=qjik))/t}\leq$$
$$=\{(1-\eta^2)\cdot\{(0,2)\cdot(9\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0)\pm(P)\pm m-(q=qjik))/t};$$

(2) Corresponding to the first-order calculus equation: velocity, momentum, weight, central zero, chord, sphere, vector addition; precession, radiation, ...; when calculus, increase or decrease the original function of the calculus equation (P =1) the positive and negative "first item".

(6.2.3)
$$\{\{x\pm(^7\sqrt{1426425})\}^{K(Z\pm Q\pm M\pm(S=7)\pm(\mathbf{N=1})\pm(P=1)\pm m-(q=qjik))/t}\leq$$
$$=\{(1-\eta^2)\cdot\{(0,2)\cdot(9\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=1)\pm(P=1)\pm m-(q=qjik))/t};$$

(3) Corresponding to the second-order calculus equation: acceleration, kinetic energy, potential energy, topology, center zero, high-dimensional vortex space; increase or decrease the positive and negative terms of the original function of the calculus equation (P=2) during calculus "The first item, the second item".

(6.2.4) $\{\{x\pm(^7\sqrt{1426425})\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=2)\pm(P=2)\pm m-(q=qjik))/t}\leq$
$=\{(1-\eta^2)\cdot\{(0,2)\cdot(9)\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=2)\pm(P=2)\pm m-(q=qjik))/t}$;

(4) In the same way, high-order calculus equations (J≤S-1)can be derived, but the second-order and above belong to high-order calculus equations, the element unit body is {q}, and{q}∈{q_{jik}} Curl in the space of the triple generator.

The formulas (6.2.1)-(6.2.4) describe the element invariance (S=7), and each order of calculus equations have isomorphic time calculations. The difference lies in the order of calculus (N=±0,1, 2). Therefore, any order of calculus equation can solve the root element.

6.2.3. According to the formula (6.2.1) calculus equation, there are the following three results:

(1), $\{x-(^7\sqrt{\mathbf{D}})\}^{K(Z)/t}=\{\{x-(^7\sqrt{1426425})\}^{K(Z)/t}=\{(1-\eta^2)\cdot\{0\cdot(9)\}^{K(Z)/t}=\{0\}^{K(Z)/t}$;
represents balance, rotation, boundary change, vector subtraction, sudden change, etc.;

(2), $\{x+(^7\sqrt{\mathbf{D}})\}^{K(Z)/t}=\{\{x+(^7\sqrt{1426425})\}^{K(Z)/t}=\{(1-\eta^2)\cdot\{2\cdot(9)\}^{K(Z)/t}=\{2\}^{K(Z)/t}$;
represents precession, vector superposition, radiation, etc.;

(3), $\{x\pm(^7\sqrt{\mathbf{D}})\}^{K(Z)/t}=\{\{x\pm(^7\sqrt{1426425})\}^{K(Z)/t}=\{(1-\eta^2)\cdot\{(0,2)\cdot(9)\}^{K(Z)/t}=\{0，2\}^{K(Z)/t}$;
represents the dynamic system of precession plus rotation superposition, radiation and vibration superposition in high-dimensional vortex space.

(4) According to$(1-\eta^2)$ or $(1-\eta^2)=(1-\eta)\cdot(1+\eta)$ it can be the long axis $(1+\eta)$ and the short axis $(1-\eta)$of the ellipse, and the center zero point is The axis and time series are periodic (equal ratio and equal pitch) vortex and precession.

6.3. Calculus group combined unit body and cluster set triplet generator

By explaining the relationship between the high-dimensional subspace and the low-dimensional subspace, the group combination unit {q} and the cluster set triple generator {q_{jik}} are introduced, and the circle logarithm-calculus equation is established to connect with the computer algorithm.

Definition 6.3.1 Group combination unit body $\{q\}=\{\Sigma_{(jik=S)}(1/C_{(S\pm q)})\mathbf{\Pi}_{(jik=P)}(x_1x_2\ldots x_p)\}$called group combination unit body.

Definition 6.3.2 Three-tuple generator $\{q_{jik}\}=\{x_j\omega_i r_k\}$, which is called element $\{x_j\}$·weight $\{\omega_i\}$·potential$\{r_k\}$ to form the generator, with (zero-order, first-order, second-order calculus) equation).

Definition 6.3.3 The relationship between the group combination unit and the triple generator: {q}∈{q_{jik}}, which means that the high-dimensional (third-order and above) calculus unit {q} is included in the low-dimensional The calculus triplet generator {q_{jik}}"zero-order, first-order, second-order" calculus, and includes the symmetry of probability, topology, and central zero point symmetry.

Definition 6.3.4 Analysis [Example 2] Formula (6.2.1)

It is known that the seven prime numbers (S=7) in the conditional infinite prime numbers are the group combination, which is called "seven tuple S={q}=7", (attribution) ∈ "three tuple generator"(q_{jik})= 7*3=21)" and the power functionExp formed by the tree level (S, Q,M).

Closed group combination:

$$[(x_{jik}\}=(^{KS}\sqrt{\mathbf{D}}_{jik})=(^{KS}\sqrt{(D_1D_2\ldots D_S)_{jik}})]^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1,2)\pm(P)\pm m-(q=qjik))/t};$$

Power function: $K(Z)/t=K(Z\pm Q\pm M\pm(S)\pm(N=0,1,2)\pm(P=0,1,2)\pm(m)-(q=q_{jik}))/t$;

The contribution of the power function with the elements unchanged (S=7):

(1) The zero-order calculus corresponds to the area element {xj} and the combined element
$\Sigma_{(jik=S)}\{x_j\}$ corresponds to the first level of the tree, qubit $\{2\}^7$;

(2) The first-order calculus equation corresponds to the Q area element $\Sigma_{(jik=S}\{x_j\omega_i\}$ corresponds to the second level of the tree, the combined element reaches 72=49 elements, and the qubit $\{2\}^{49}$:

(3) The second-order calculus equation corresponds to the M area element $\Sigma_{(jik=SQM)}\{x_j\omega_i r_k\}$ corresponds to the third level of the tree, the combined element reaches 7^3=343elements, and the qubit $\{2\}^{343}$.

According to the time series and tree-like distribution, the calculus computing power is increased in series. The algorithm is simple, unified and convenient.

6.4. Weight-the logarithm of the symmetric circle of the center zero point $(1-\eta_\omega^2)$

The important feature of the logarithm of the weight circle is "unit (1) gauge invariance". The important function of the central zero point is to resolve the multivariate function into two relatively symmetrical resolution functions, and perform serial/parallel analysis and calculation respectively.

6.4.1 Analysis [Example 2] Formula (6.2.1) introduces $\{x_j\omega_i\}$ to solve $\{\omega_i\}=\{x_j\omega_i\}/\{x_j\}$ corresponding to the logarithm of the weight circle $(1-\eta_\omega^2)$, which is unique to the generator of the triplet Important characteristics of "Unitary gauge invariance $(1-\eta_\omega^2)=\{0 \text{ or } 1\}$":

(1) Reflect the degree of uneven distribution of elements and weights;

(2) Deal with the relationship between the combination coefficient of the calculus group and the average value ($B=SD_0$):

(3) Establish the relative symmetry center zero point, so that the resolution is two asymmetry analytic functions ($\mathbf{D}_A$ and $\mathbf{D}_B$), and the relative symmetry degree of $\mathbf{D}_A$ and $\mathbf{D}_B$ is described by the logarithm of the center zero point circle $(1-\eta_\omega^2)$.

Definition 6.4.5 Topological group combination element (x_j), weight (ω_i) potential energy (r_k) are generators of triples, representing the location of the group combination belonging to the J(Q) area (the second level of the tree) , Element combination form.

Definition 6.4.6 Parallel second-order calculus equation, high parallel (multiplication) combination of each multi-media state.

Take the J(Q) area (level) as an example:$J(M_A)^{K(ZSQA)/t}\cdot J(M_B)^{K(ZSQB)/t}\cdot\ldots\cdot J(M_G)^{K(ZSQG)/t}$, Definition 6.4.7 Serial second-order calculus equation, high parallel (multiplication) combination of each multi-media state,

Take J(M) area (level) as an example: $J(M_A)^{K(ZSMA)/t}\cdot J(M_B)^{K(ZSMB)/t}\cdot\ldots\cdot J(M_G)^{K(ZSMG)/t}$,

Example: Weight calculation $\{\omega_i\}$ belongs to Q-level analysis,

(6.4.1)
$$\{\boldsymbol{\omega_i}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}=[\boldsymbol{\Sigma}_{(S=6)}\{x_{j1}\boldsymbol{\omega_{i1}}\}+\{x_{j2}\boldsymbol{\omega_{i2}}\}+\ldots+\{x_{j7}\boldsymbol{\omega_{i7}}\}$$
$$/\boldsymbol{\Sigma}_{(S=7)}\{x_{j1}\}+\{x_{j2}\}+\ldots+\{x_{j7}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$
$$=[\boldsymbol{\Sigma}_{(S=7)}\{\omega_{i1}\}+\{\omega_{i2}\}+\ldots+\{\omega_{i7}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

Definition 6.4.8, weight average calculation

(6.4.2)
$$\{\omega_{0i}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}=\{[\{\omega_{i1}\}+\{\omega_{i2}\}+\ldots+\{\omega_{i7}\}]$$
$$/\boldsymbol{\Sigma}_{(S=7)}(1/S)^K[\{\omega_{j1}\}+\{\omega_{j2}\}+\ldots+\{\omega_{j7}\}]\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

Definition 6.4.9. The logarithm of the weight circle (called the logarithm of the center zero-point symmetry circle) satisfies the two-sided symmetry distribution:

(6.4.3) $$(1-\eta_\omega^2)=|\boldsymbol{\Sigma}_{(i=+S)}(1-(+\eta_\omega)^2)|=|\boldsymbol{\Sigma}_{(i=-S)}(1-(-\eta_\omega)^2)|;$$

(6.4.4) $$(\eta_\omega)=|\boldsymbol{\Sigma}_{(i=+S)}(+\eta_\omega)|=|\boldsymbol{\Sigma}_{(i=-S)}(-\eta_\omega)|;$$

Definition 6.4.10, the logarithm of the weight circle corresponds to $\{x\}=(x0\omega0i)$ first-order calculus equation

(6.4.5)
$$\{X=(x_j\boldsymbol{\omega_i})\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P=0,1)\pm(P)\pm(qjik=0,1))/t}$$
$$=[(1-\eta_\omega^2)\cdot(x_0\boldsymbol{\omega_0})\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$
$$=[(1-\eta_\omega^2)\cdot(X_0)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$
$$=[(1-\eta_\omega^2)\cdot(\boldsymbol{\omega_0})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$

In particular, based on the uncertainty of the continuous multiplication of ($x_0\boldsymbol{\omega_{0i}}$), the circle logarithm of (x_0) and ($\boldsymbol{\omega_0}$) have synchronous variability through the circle logarithm.

6.4.2 Steps for logarithm of weight circle:

In the Q area, make a continuous closed curve, connect all the elements $\{x_j\}$ (numerical value) in sequence to form two forms"Closed circle", establish $\{x_j\omega_i\}$ weight function

(1) Make a closed circle, select any point (arbitrary geometric center point) inside the circle as the center Oω, and each place

The distance from the element $\{x_j\}$ to the center point O_ω is (ω_i), and the element is $\{X\}=\boldsymbol{\Pi}_{(i=P)}(x_1x_2\ldots x_p)$which is called serial calculation.

(2) Make two closed circles, and choose any point (arbitrary geometric center point) inside each of the two circles as the center OωA, OωB; each element of the two closed circles $O_{\omega A}$, $O_{\omega B}$ $\{x_j\}$ to the equilibrium center point of $O_{\omega AB}$ The distance is (ω_i), the elements are $\{X\}=\{(x_A=\boldsymbol{\Pi}_{(i=A)}(x_{A1}x_{A2}\ldots x_{Ap})+(x_B\boldsymbol{\Pi}_{(i=B)}(x_{B1}x_{B2}\ldots x_{Bp})\}$, the intersection is the two closed circles The point of relative symmetry is called the "center zero point." It is called parallel calculation.

[Proof 7]: Parallel combination and serial combination of weights. Finally, they all have the same weight average value and (different values) center zero point. The position of the center zero point can be superimposed.$\mathbf{D}_{S\omega0}$ and $\mathbf{D}_{(A+B)\omega0}$ have the same logarithmic form with different values.

Serial weight boundary conditions:

(6.4.6)
$$\mathbf{D}_{S\omega0}=\mathbf{D}_A\cdot\mathbf{D}_B=\{x_{j0}\omega_{i0}\}$$
$$=[(1/S)\{x_j\omega_i\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=S)/t};$$

Parallel weight boundary conditions:

(6.4.7)
$$\mathbf{D}_{(A+B)\omega0}=\mathbf{D}_A+D_B=\{x_{j0A}\omega_{i0A}\}+\{x_{j0B}\omega_{i0B}\}$$
$$=[(1/S_A)\{x_{jA}\omega_{iA}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=A)/t}$$
$$+(1/S_B)\{x_{jB}\omega_{iB}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=B)/t}$$
$$=(1/S)\{x_j\omega_i\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=(A+B))/t};$$

Formulas (6.4.1)-(6.4.7) serial/parallel representation, the same center zero position, and different numerical weights. The difference lies in the combination of elements: the former weight is an analytic function "one-variable seventh-order equation, first-order differential Integral"; the weight of the latter is two analytic functions "one element （A+B or"3+4""2+5"=（S=7）seven times (two analytic functions) first-order calculus equation";

6.4.3. Analysis [Example] Calculus weight $\{x_j\omega_i\}/\{x_j\}$,

The parallel combination and serial combination of weights belong to the combination relationship between the element and the primary space.

The element (S=7) remains unchanged, $\{x=X_j\omega_i\}=D_0=(1/7)B$. The average values of the combined elements are serial combination $D_0=(1/7)B$; parallel combination $D_{0A}=(1/S_A)B_A$ and $D_{0B}=(1/S_B)B_B$; S=(A+B)=7;

Definition 6.4.11the unified description of serial/parallel weights and center zero point,

(6.4.8) $$\{\omega_i\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=6)/t}=\{{}^7\sqrt{\mathbf{D}}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=6)/t}$$
$$=\{\mathbf{\Sigma}_{(S=7)}(1/S)[\{x_{j1}\omega_{i1}\}+\{x_{j2}\omega_{i2}\}+\ldots+\{x_{j7}\omega_{i7}\}]$$
$$/\{\mathbf{\Sigma}_{(S=7)}(1/S)[\{x_{j1}\}+\{x_{j2}\}+\ldots+\{x_{j7}\}]\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=6)/t}$$
$$=\{\omega_{i0A}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=A)/t}+\{\omega_{i0B}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=B)/t}$$
$$=\{x_{j0}\omega_{i0}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=7))/t}$$
$$=\{7\cdot\omega_{i0}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=7)/t},$$

The formula (6.4.8) reflects that parallel/serial have different logarithmic weights of circles, but the logarithmics of parallel circles can be superimposed into a common weight and center zero.

Definition 6.4.12 establishes the first-order calculus equation corresponding to the weight:

(6.4.9) $$\{X\pm({}^{KS}\sqrt{(D_{jik})}\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(qjik=1))/t}$$
$$=\underline{ax}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m-(q=0))/t}【\pm bx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=1))/t}$$
$$+cx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=2))/t}\pm dx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=3))/t}$$
$$+ex^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=4))/t}\pm fx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=5))/t}$$
$$+[gx=({}^7\sqrt{1426425})]^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=6))/t}】\pm\underline{\mathbf{D}}$$
$$=【\pm bx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=1))/t}+cx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=2))/t}$$
$$\pm dx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=3))/t}+ex^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=4))/t}$$
$$\pm fx^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=5))/t}+({}^7\sqrt{1426425})]^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(q=6))/t}】$$
$$=[(1-\eta^2)\cdot\{X_0\pm\mathbf{D}_{0jik}\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P)\pm m\pm(qjik=0,1))/t}$$
$$=[(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_{0jik}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

(6.4.10) $$x_j=[(1-\eta^2)\cdot\{\mathbf{x}_{0jik}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

$$\omega_i=[(1-\eta^2)\cdot\{\omega_{i0jik}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

$$t=[(1-\eta^2)\cdot\{\mathbf{D}_{0jik}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

The formula (6.4.10) is called Lorentz nonlinear permutation, which reflects the multi-element multiplication $\{\mathbf{x}_{jik}, \boldsymbol{\omega}_{i,} \mathbf{t}\}$. Each element has the same change rule, and can replace each other instead of the change rule. Among them: regularization reciprocity, get the regularization combination form:

$(q_{jik}=1)=(q=7)$; $(q_{jik}=1)=(q=6)$;

Definition 6.4.13, center zero weight symmetry

(6.4.11) $$(1-\eta_\omega{}^2)^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}=[(1-\eta_\omega{}^2)^{K(+Q)/t}\cdot(1-\eta_\omega{}^2)^{K(-Q)/t}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$
$$=\{0\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

Definition 6.4.14. Superposition of circle logarithms:

(6.4.12) $$(\eta_\omega)^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/tt}=\Sigma_{(i=S)}[(+\eta_\omega{}^2)^{K(+Q)/t}+(-\eta_\omega{}^2)^{K(-Q)/t}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$
$$=\{0\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t};$$

Definition 6.4.15. The superposition of the logarithm of the probability circle and the weight {Xjωi}:

(6.4.13) $$\{X_j\omega_i\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}=[(1-\eta_H{}^2)\cdot(1-\eta_\omega{}^2)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$$

The formulas (6.4.8)-(6.4.13) respectively indicate that the logarithm of the probability circle (1-ηH2) and the logarithm of the weight circle (1-ηω2) are superimposed in the form of serial/parallel at the center zero point {ω0i}. In particular, for [Example 2] the serial/parallel $(D=_{(A\cdot B)})/(D=_{(A+B)})$ weights of the second-order calculus equation are $(q_{jik}=(S)=7)$ and$(q_{jik}=(S)=A+B=7)$difference. It is proved that the high parallel calculus equation $\mathbf{\Sigma}\{x_j\omega_i\}$ and the high serial calculus $\mathbf{\Pi}\{x_j\omega_i\}$ equation are expanded by a unified circle logarithm equation under the center zero point circle logarithm, and they have isomorphic and consistent time calculations.

6.5. Topology-the logarithm of the symmetry circle of the center zero point $(1-\eta_T{}^2)$.

Topological-center zero-point symmetry circle logarithmic triple generator is an important characteristic unique to the generator. The asymmetry of the topology distribution is processed by the logarithm of the topological-center zero point symmetry circle, and the topological center zero point is moved or the boundary state value is adjusted to be converted into concentric circles, thereby establishing the time series expansion of concentric circles.

6.5.1. The analysis formula (6.2.1) introduces $\{x_j\omega_i r_k\}$ topological potential energy

$\{x_j\omega_i r_k\}$The topological potential energy belongs to the third level(M)area of the tree, and the average $\{x_{j0}\omega_{i0}r_{k0}\}$ corresponds to the logarithm of the topological circle $(1-\eta_T^2)^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(qjik)/t}$, is the unique "unitary gauge invariance$(1-\eta_T^2)=\{0$ to $1\}$" of the generator of the triplet. Potential energy$\{r_k\}=\{x_j\omega_i r_k\}/\{x_j\omega_i\}$, $\{r_{k0}\}=\{x_{j0}\omega_{i0}r_{k0}\}/\{x_{j0}\omega_{i0}\}$ corresponds to the second-order calculus.

Definition 6.5.1 Topological group combination element （x_j）, weight（ω_i）potential energy （r_k）are generators of triples,

Features: Represents the location of the group combination belonging to the J(M) area (the third level of the tree), the element$\{q\}\in\{q_{jik}\}$combination form, which means that each group combination has $\{q_{jik}\}=\{x_j\cdot\omega_i\cdot r_k\}$ The important features unique to the generators of the triples, which form (zero-order, first-order, second-order) calculus equations, and one analytic function DS or two analytic functions **D** corresponding to the logarithm of the symmetry circle of the center zero point. (A+B): They have different values, the position of the center zero point can be superimposed, and the logarithm form of the circle is the same for different values. .

Definition 6.5.2 Parallel second-order calculus equation, high parallel (multiplication) combination of each multi-media state.

Parallel J(Mjik) area (level): $J(Ma)^{K(ZSQMA)/t}+J(M_b)^{K(ZSQMB)/t}+\ldots+J(M_q)^{K(ZSQMG)/tt}$,

Define the 6.5.3 serial second-order calculus equation, the high parallel (multiplication) combination of each multi-media state,

Serial J(Mjik) area (level): $J(Ma)^{K(ZSQMA)/t}\cdot J(M_b)^{K(ZSQMB)/t}\cdot\ldots\cdot J(M_q)^{K(ZSQMG)/tt}$,

6.5.2. Diagrammatic steps of topological circle logarithm:

In the M area, make a continuous closed curve and connect all the elements {xjωi} (numerical value) in sequence to form two forms

"Closed circle" of, establish a {xjωirk} topological function with a resolution of two functions. Topological space distance (measure)

$$\{R_k\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik)/t}=[(1-\eta_T^2)\cdot(r_{k0})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik)/t}$$

(1) Topological serial calculation $D_{S(AB)}=D_A\cdot D_B$：:

The figure shows: Make a closed circle, choose any point (arbitrary geometric center point) inside the circle as the center$O_{\omega R}$, the distance from each element $\{x_j\omega_i\}$to the center point$\{x_j\omega_i r_k\}$ and the element is $\{x_j\omega_i r_i\}=\Sigma_{(jik=S)}\Pi_{(i=P)}(x_j\omega_i r_i)$,

(2) Topological parallel calculation $D_{S(A+B)}=D_A+D_B$:

The figure shows: Make two closed circles, and choose any point (arbitrary geometric center point) inside each of the two circles as the center $O_{\omega A}$,$O_{\omega B}$; the distance between each element$\{x_j\omega_i\}$of the two closed circles $O_{\omega A}$,$O_{\omega B}$ and the equilibrium center point of $O_{\omega R}$ Is（r_k）, the elements are $\{x_A\}=\Sigma_{(jik=A)}\Pi_{(i=AP)}(x_{A1}x_{A2}\ldots x_{Ap})$ and $\{x_B\}=\Sigma_{(jik=B)}\Pi_{(i=Bp)}(x_{B1}x_{B2}\ldots x_{Bp})\}$, the intersection of the two closed circles is the relative symmetry point $\{R_{AB0}\}$ of the two closed circles, called the "center zero point".

(3) Establish a closed circle $D=D_A\cdot D_B=\{x_{j0}\omega_{i0}r_{i0}\}=(1/S)\{x_j\omega_i r_i\}$ and two closed circles

Circle;$D=D_A+D_B=\{x_{jA0}\omega_{iA0}r_{i0A}\}+\{x_{jB0}\omega_{iB0}r_{iB0}\}$;

$D_A=\{x_{jA0}\omega_{iA0}r_{i0A}\}=(1/S_A)\{x_{jA}\omega_{iA}r_{iA}\}$; $D_B=\{x_{jB0}\omega_{iB0}r_{iB0}\}=(1/S_B)\{x_{jB}\omega_{iB}r_{iB}\}$。

(4) Establish the central zero point of the potential energy topology function $(1-\eta_T^2)=(R_{k0})$.

(5) Establish the second-order calculus equation corresponding to the potential energy topology:

6.5.3. [Proof 8]: Bit-energy topology parallel combination and serial combination.

Potential energy topology parallel combination and serial combination belong to the combination relationship of element and secondary space.

The element (S) remains unchanged, $D_0=(1/S_A)B_A$. The average values of the combined elements are serial combination $D_0=(1/S)B$; parallel combination $D_{0A}=(1/S_A)B_A$ and $D_0=(1/S_B)B_B$; S=(A+B)=7 Both have a common topological average of potential energy and (different values) central zero point. The central zero point position can be superimposed. The boundary conditions of the two analytic functions D_{Sr0} and$D_{(A+B)r0}$ have different values, and the geometric central zero point positions are the same. The corresponding round logarithm form is the same.

Define 6.5.4 boundary conditions of the bit-capable serial topology:

(6.5.1) $$D_{Sr0}=D_A\cdot D_B=\{x_{j0}\omega_{i0}r_{i0}\}=(1/S)\{x_j\omega_i r_i\}$$
$$=[(1/S)\{x_j\omega_i r_i\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=6)/t};$$

Define the boundary conditions for the 6.5.5-bit parallel topology:

(6.5.2) $$D_{(A+B)r0}=D_A+D_B$$
$$=\{x_{jA0}\omega_{iA0}r_{i0A}\}+\{x_{jB0}\omega_{iB0}r_{iB0}\}$$

$=[(1/S_A)\{x_{jA}\omega_{iA}r_{iA}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=A)/t}$
$+(1/S_B)\{x_{jB}\omega_{iB}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=B)/t}$
$=(1/S)\{x_j\omega_i\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=(A+B))/t}$;

Formulas (6.5.1)-(6.5.2) serial/parallel representation, the center zero position is the same, the weights of different values, the difference is

For element combination: the weight of the former is an analytic function "one-variable seven-order equation first-order calculus"; the weight of the latter is two analytic functions "one-variable （A+B or"3+4""2+5"=（S=7）Seventh order (two analytic functions) first-order calculus equation"; analysis

Definition 6.5.6 Topological parallel second-order calculus weight $\{x_{jA}\omega_{iA}r_{kA}\}+\{x_{jB}\omega_{iB}r_{kB}\}\in\{x_{jA}\omega_{iA}r_{kA}\}$ equation:

(6.5.3) $\{X_R\}=\{D_R\}=\mathbf{\Sigma}_{(S=7)}[\{x_{j1}\omega_{i1}r_{k1}\}+\{x_{j2}\omega_{i2}r_{k2}\}+\ldots+\{x_{jq}\omega_{iq}r_{kq}\}]$
$=\{S\cdot D_0\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=S)/t}$,

Definition 6.5.7 Topological serial calculus {Xjωirk} equation (ie exponential expansion):

(6.5.4) {Xr}={Dω}=∏(i=7))[{Xj1ωi1rk1}·{Xj2ωi2rk2}·…·{Xjqωiqrkq}]
={7·D0}K(Z±Q±(S=7)±(N=±0,1,2)±(P)±(qjik=(A+B))/t,

Here, the parallel calculus equation Σ{Xjωirk} and the serial calculus Π{Xjωirk} equation have an isomorphic and consistent time calculation, that is, a unified circular logarithmic equation expansion.

Definition 6.5.8. Potential energy calculation $\{r_k\}$

(6.5.5) $\{r_k\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik)/t}$
$=\mathbf{\Sigma_{(S=6)}}\{X_{jA1}\omega_{\mathbf{i11}}\}+\{X_{j2}\boldsymbol{\omega}_{\mathbf{i2}}r_{k2}\}+\ldots+\{X_{jq}\boldsymbol{\omega}_{\mathbf{iq}}r_{kq}\}$
$/\ \mathbf{\Sigma_{(S=6)}}\{X_{jA1}\omega_{\mathbf{i1}}\}+\{X_{j2}\boldsymbol{\omega}_{\mathbf{i2}}\}+\ldots+\{X_{jq}\boldsymbol{\omega}_{\mathbf{iq}}\}$
$=[\mathbf{\Sigma_{(S=6)}}\{r_{k1}\}+\{r_{k2}\}+\ldots+\{r_{kq}\}]$;

Definition 6.5.9. Calculation of average potential energy

(6.5.6) $\{r_{k0}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik)/t}=\mathbf{\{[}\{r_{k0}\}+\{r_{k0}\}+\ldots+\{r_{k0}\}]$
$/\mathbf{\Sigma_{(S=6)}}(1/S)^K[\{X_{jA1}\omega_{\mathbf{i1}}r_{k1}\}+\{X_{j2}\boldsymbol{\omega}_{\mathbf{i2}}r_{k2}\}+\ldots+\{X_{jq}\boldsymbol{\omega}_{\mathbf{iq}}r_{kq}\}]\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(qjik)/tt}$;

Definition 6.5.10. Calculation of the logarithm of the potential energy topological circle (called the logarithm of the symmetrical circle at the center zero point)

(6.5.7) $(1-\eta_T^2)^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik)/t}=[\{x_{0j1}\boldsymbol{\omega}_{\mathbf{0i1}}r_{k01}\}/\mathbf{\Sigma}\{x_{0jj}\boldsymbol{\omega}_{\mathbf{0}}r_{k0}\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2))\pm(P)\pm(qjik)/t}$;

Definition 6.5.11.serial/parallel topology and unified description of the center zero point,

Parallel (continuous addition)$\{\mathbf{D}_0=\mathbf{D}_{0(A+B)}=\mathbf{D}_{0(A)}+\mathbf{D}_{0(B)}\}$ and $\{\mathbf{D}_0=\mathbf{D}_{0(AB)}=\mathbf{D}_{0(A)}\cdot\mathbf{D}_{0(B)}\}$ serial (continuous multiplication)

(6.5.8) $\{r_{k0}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=6)/t}=\{^7\sqrt{\mathbf{D}}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=6)/t}$
$=\{\mathbf{\Sigma}_{(S=7)}(1/S)[\{\{x_{j1}\omega_{i1}r_{i1}\}\}+\{\{x_{j2}\omega_{i2}r_{i2}\}\}+\ldots+\{\{x_{jq}\omega_{iq}r_{iq}\}\}]$
$/\ \{\mathbf{\Sigma}_{(S=7)}(1/S)[\{\{x_{j1}\omega_{i1}\}\}+\{\{x_{j2}\omega_{i2}\}\}+\ldots+\{\{x_{jq}\omega_{iq}\}\}]\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=6)/t}$
$=\{r_{k0A}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=A)/t}+\{r_{k0B}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=B)/t}$
$=\{x_{j0}\omega_{i0}r_{k0}\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=7))/t}$
$=\{S\cdot D_0\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=7)/t}$,

6.5.4. [Example] Formula (6.2.1) introduces a second-order calculus equation.

Formula (6.2.1) introduces the second-order calculus equation corresponding to the potential energy of the generator of the triplet $X=(x_j\omega_i r_k)$.

(6.5.9) $\{(x_j\omega_i r_k)\pm(^{KS}\sqrt{\mathbf{D}})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(q=qjik)/t}$
$=\underline{ax}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=0)/t}\pm\underline{bx}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(qjik=1)/t}$
$+cx^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik=2)/t}\pm dx^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=3)/t}$
$+ex^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=4)/t}\pm[fx=(^7\sqrt{\mathbf{D}})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=5)/t}$
$+\underline{gx}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(qjik=6)/t}\pm\underline{(^7\sqrt{\mathbf{D}})}^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik=7)/t}$
$=【+cx^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P=2)\pm(qjik=2)/t}\pm dx^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P=2)\pm(qjik=3)/t}$
$+ex^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P=2)\pm(qjik=4)/t}\pm(^7\sqrt{\mathbf{D}})^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P=2)\pm(qjik=5)/t}】$
$=\{[(1-\eta^2)\cdot[(x_{j0}\omega_{i0}r_{k0})\pm(\mathbf{D_{0jik}})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P=2)\pm(qjik)/t}$
$=[(1-\eta_\omega^2)(1-\eta_H^2)(1-\eta_T^2)\cdot\{(X_j\boldsymbol{\omega}_{\mathbf{i}}\mathbf{r_k})\pm(\mathbf{D_{0jik}})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P=2)\pm(qjik)/t}$
$=[(1-\eta^2)\cdot\{0,2\}\cdot(\mathbf{D}_{0jik})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P=2)\pm(qjik)/t}$;

In the formula: regularized reciprocity obtains the combined form: (qjik=0)=(qjik=7); (qjik=1)=(qjik=6); (qjik=2)=(qjik=5);

Definition 6.5.12, the weight symmetry of the zero point of the potential energy center

(6.5.10) $(1-\eta_T^2)^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1,2)\pm(P)\pm(qjik)/t}=[(1-\eta_T^2)^{K(+Q)/t}\cdot(1-\eta_T^2)^{K-Q)/t}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm0,1)\pm(P)\pm(qjik)/t}$

$$=\{0\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik)/t};$$

(6.5.11) $$(\eta_T)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik)/t}=[(+\eta_T{}^2)^{K(+Q)/t}+(-\eta_T{}^2)^{K-Q)/t}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik)/t}$$
$$=\{0\}^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik)/t};$$

Definition 6.5.13. The logarithm of the topological circle corresponds to the central zero of the second-order calculus equation $\{x\}=(x_0\boldsymbol{\omega}_{0i}\mathbf{r}_k)$

(6.5.12) $$\{X=(x_j\boldsymbol{\omega}_i\mathbf{r}_k)\}^{K(Z\pm Q\pm M\pm(S=7)\pm(N=0,1)\pm(P=0,1)\pm(P)\pm(qjik=0,1))/t}$$
$$=[(1-\eta_\omega{}^2)\cdot(x_0\boldsymbol{\omega}_0\mathbf{r}_0)\}]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(P)\pm(qjik)/t}$$
$$=[(1-\eta_H{}^2)\cdot(X_0)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(P)\pm(qjik)/t}$$
$$=[(1-\eta_\omega{}^2)\cdot(\boldsymbol{\omega}_0)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(P)\pm(qjik)/t}$$
$$=[(1-\eta_T{}^2)\cdot(\mathbf{r}_0)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(P)\pm(qjik)/t};$$

(6.5.13) $$t=[(1-\eta_t{}^2)\cdot(\mathbf{t}_0)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(P)\pm(qjik)/t};$$

The formulas (6.5.12), (6.5.13) are called Lorentz nonlinear permutation, which reflects the multi-element multiplication. Each element has the same change rule and can be replaced by each other.

Definition 6.5.14. The three overlapping additions of circle logarithms are called three "unitary gauge invariance circle logarithms".

(6.5.14) $$(1-\eta^2)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik)/t}=[(1-\eta_\omega{}^2)(1-\eta_H{}^2)(1-\eta_T{}^2)]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik)/t};$$

Respectively represent the superposition of the logarithm of the prime probability circle, the logarithm of the weight circle, and the logarithm of the topological circle at (center zero point Ork),

In particular, for [Example 2] the serial($\mathbf{D}=_{(AB)}$) and parallel ($\mathbf{D}=_{(A+B)}$) weights of the second-order calculus equation are (q_{jik}=(S)=7) and(q_{jik}=(S)=A+B=7) difference. It is proved that the high parallel calculus equation $\boldsymbol{\Sigma}_{(S=q)}\{x_j\omega_i r_k\}$ and the high serial calculus $\boldsymbol{\Pi}_{(S=P)}\{x_j\omega_i r_k\}$ equation are developed with a unified circle logarithm equation under the circle logarithm of the center zero point, and have isomorphic and consistent time calculations.

6.6. Cluster combination generator-the logarithm of the probability circle of the cluster set($1-\eta_H{}^2$),

The third of the important characteristic of the generator of the logarithmic triplet of the probability-center zero point symmetry circle "three units (1) gauge invariance". The root element of the calculus equation can be solved by the logarithm of the probability circle.

6.6.1. Analysis [Example 2] The logarithm of the probability circle of the generator of the triplet ($1-\eta_H{}^2$)

Formula (6.2.1) introduces the relationship $\{q\}\in\{q_{jik}\}$ between the group combination and the triplet generator (called cluster set in pattern recognition), and the probability distribution of the logarithm of the probability circle($1-\eta_H{}^2$) is the same {q}={qjik}. The important feature of circle logarithm "three unit (1) circle logarithm gauge invariance" is also the same, the difference lies in the dimension and characteristic modulus conditions. The special group combination and the triplet generator have the same central zero point synchronization expansion. Therefore (S) invariant calculus equations of any order can satisfy the root solution $\{x_j\}$:

Logarithm of probability circle:

(6.6.1) $$(1-\eta_H{}^2)=[(x_1)+(x_2)+\ldots+(x_q)]/\{x_{q=jik}\}$$
$$=[(1-\eta_{H1}{}^2)+(1-\eta_{H2}{}^2)+\ldots+(1-\eta_{Hq}{}^2)]=\{1\};$$

Logarithm of probability center zero circle

(6.6.2) $$(1-\eta_{0H}{}^2)=[(x_1)+(x_2)+\ldots+(x_q)]/\{x_{0qjik}\}$$
$$=\boldsymbol{\Sigma}_{(S=-q)}(1-\eta_{H1}{}^2)+\Sigma_{(S=+q)}(1+\eta_{H2}{}^2)=\{0\};$$

Symmetry of the logarithm of the zero circle of the probability center:

(6.6.3) $$(\eta_H)=|\Sigma_{(S=-q)}(-\eta_H)|=|\Sigma_{(S=+q)}(+\eta_H)|;$$

Similarities and differences of calculus equations composed of high serial/high parallel:

Similarity: Group combination-the number of cluster set elements {Z±S} remains unchanged, $\{q\}=\{q_{jik}\}$, the same circle logarithm algorithm;

Difference: different characteristic mode D: parallel (continuous addition) $\{\mathbf{D}_0=\mathbf{D}_{0(A+B)}=\mathbf{D}_{0(A)}+\mathbf{D}_{0(B)}\}$and $\{\mathbf{D}_0=\mathbf{D}_{0(AB)}=\mathbf{D}_{0(A)}\cdot\mathbf{D}_{0(B)}\}$ Serial (multiply) $\mathbf{D}_{(S=(AB)}{}^{K(Z\pm Q\pm S\pm M\pm(P)\pm(qjik=S)/t}$, high parallel $\mathbf{D}_{(S=(A+B)}{}^{K(Z\pm Q\pm S\pm M\pm(P)\pm(qjik=S=(A+B))/t}$In particular, the "probability-topology-central zero point" of any function obtains two asymmetry analytic functions in sequence through the central zero point, and further processing becomes two analytic functions of relative symmetry. Among them, "continuous addition combination" high parallel parallel calculus equation (called high parallel multi-media state); "continuous multiplication combination" represents high serial calculus equation (called neural network engine). .. The logarithm of circle is convenient for manual calculation or simplified computer software-hardware settings, and no-label learning.

6.7 Solving the seven-order calculus equation in one variable

Analysis [Example] Formula (6.2.1) is solved by logarithm of probability circle. Among them: the parallel/serial state depends on the composition of the characteristic mode (D0) and does not affect the circle logarithm algorithm.

Discriminant:

$(1-\eta^2)=[1-(^7\sqrt{\mathbf{D}})/\mathbf{D}_0]=[1-(^7\sqrt{1426425})/9]$
$=[4782969-1426425]/4782969$
$=1-0.298230=0.701770=19/63\le 1;$

The relative symmetry of the center zero point satisfies:

(6.7.1) $(\eta_H)=|\Sigma_{(jik=+S)}(+\eta_H)|=|\Sigma_{(jik=-S)}(-\eta_H)|$;

There may be multiple sets of factors for the symmetry of the asymmetry of the following two analytic functions:

The average value（$D_0=9$）; $B=S\mathbf{D}_0=63$

(2+5:type)[◎◎($D_0=9$)◎◎◎◎◎]；(3+4type)[◎◎◎($D_0=9$)◎◎◎◎]；

Use the central zero point symmetry$(1-\eta_H^2)B=19/63$ to test, if the symmetry is not satisfied, adjust $\eta^2=\pm 16/63$ and verify again;

$[(1-\eta_1)+(1-\eta_2)+(1-\eta_3)+(1-\eta_4)]-[(1-\eta_5)+(1-\eta_6)+(1-\eta_7)]D_0/B$
$=[(1-6/9)+(1-4/9)+(1-4/9)+(1-2/9)]9-[(1+2/9)+(1+4/9)+(1+10/9)]9/63$
$=[-16]/63-[+16]/63=0$；(satisfying the symmetry of the circle logarithmic factor)

Get:

(6.7.2) $x_1=(1-\eta_1)\cdot 9=(1-6/9)/9=3$;
$x_2=(1-\eta_2)\cdot 9=(1-4/9)/9=5$;
$x_3=(1-\eta_3)\cdot 9=(1-4/9)/9=5$;
$x_4=(1-\eta_4)\cdot 9=(1-2/9)/9=7$;
$x_5=(1+\eta_5)\cdot 9=[(1+2/9)/9=11$;
$x_6=(1+\eta_6)\cdot 9=(1+4/9)/9=13$;
$x_7=(1+\eta_7)\cdot 9=(1+10/9)/9=19$;

Verification **(1)**: $D_0=(1/7)(3+5+5+7+11+13+19)$; $D=(3\cdot 5\cdot 5\cdot 7\cdot 11\cdot 13\cdot 19)=1426425$;

Verification **(2)**: $\{(x_j\omega_i r_k)-(^{KS}\sqrt{\mathbf{D}})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(q=qjik)/t}$
$=\{(1-\eta^2)\cdot(x_j\omega_i r_k)-(^{KS}\sqrt{\mathbf{D}})]^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(q=qjik)/t}$
$=(1-\eta^2)\cdot[(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik=0)/t}-7\cdot(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(qjik=1)/t}$
$+21\cdot(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1)\pm(P)\pm(qjik=2)/t}-35\cdot(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik=3)/t}$
$+35\cdot(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik=4)/t}-21\cdot(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik=5)/t}$
$+7\cdot(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(qjik=6)/t}-(7)^{K(Z\pm Q\pm(S=7)\pm(N=\pm 0,1,2)\pm(P)\pm(qjik=7)/t}=0$;

6.8. The method that the resolution of the seven-order calculus equation of one variable is two

According to the meaning of the question, the one-variable seven-order calculus equation is decomposed into two analytic functions. But the known conditions did not tell .$\mathbf{D}_A$ and $\mathbf{D}_B$. Only $D=DAB\mathbf{D}=\mathbf{D}_{AB}$.

Verification **(3)**: $D_A=(3\cdot 5\cdot 5\cdot 7)=(525)$；$D_B=(11\cdot 16\cdot 19)=(2717)$；$(1-\eta_{\omega AB}^2)D_0=9$;

Serial combination: $\mathbf{D}=D_{(A\cdot B)}=(525)\cdot(2717)=1426425$;

Parallel combination: $\mathbf{D}=D_{(A+B)}=(525)+(2717)=3242$;

In other words, to make a closed circle, you can take any point as the center point, calculate their asymmetry circle logarithm $(1-\eta_\omega^2)$，$(1-\eta_\omega^2)$ the radius of any point on the circle curve boundary that passes through the center of the circle becomes the element probability distribution The balance point of asymmetry. That is to say, the intersection of the two closed circles in the above drawing-the center zero point is not easy to determine that this analysis is conditional. Only when the center zero point is found, can the two closed circles $\mathbf{D}_A$ and$\mathbf{D}_B$ be balanced. However, in solving the root element, in solving the root element by $\mathbf{D}=\mathbf{D}_{AB}$, the symmetry of the central zero point $(1-\eta_\omega^2)D_0=9$ is used to find $D_A=(3\cdot 5\cdot 5\cdot 7)=(525)andD_B=(11\cdot 16\cdot 19)=(2717)$. In fact, the one-variable seventh-order equation can be resolved into two analytical equations (ie: the continuous multiplication or continuous addition of the one-variable cubic equation and the one-variable quaternary equation).

Obtain (A):

$\mathbf{D}_{0A}=(1/4)(3+5+5+7)=5$;　$D_A=(3\cdot 5\cdot 5\cdot 7)=(525)$;　$(1-\eta_{\omega A}^2)D_0=5$;
$X^4\pm BX^3+CX^2\pm DX^1+\mathbf{D}=X^4\pm 4\cdot D_0X^3+6\cdot D_0^2X^2\pm 4\cdot D_0^3X^1+\mathbf{525}$;

Obtain (B):

$\mathbf{D}_{0B}=(1/3)(11+16+19)=15.333$；$D_B=(11\cdot 16\cdot 19)=(2717)$；$(1-\eta_{\omega A}^2)D_0=46/3$;
$X^3\pm BX^2+CX^1\pm\mathbf{D}=X^3+3\cdot D_0X^2\pm 3D_0^2X+500X^1\pm 2717$;

The same reason: It is known that the parallel combination of$\mathbf{D}_{0A}$ and$\mathbf{D}_{0B}$ is developed synchronously with the two-sided symmetry of the central zero point$(1-\eta_{\omega AB}^2)D_0=9$. Conversely, it can also form a series closed circle.

6.9. Discussion:

(1) Traditional calculation: Traditional probability function = 1, according to the symmetry of the logarithmic factor of the zero circle of the logarithmic center of the probability circle, guess each root element multiple times (or unsupervised learning with multiple verifications for verification).

(2) Multi-level central zero point method can be used for normal calculation, such as one-variable S-degree equation. As long as the number of closed element combinations {S} (the calculus equation S of any order remains unchanged); boundary conditions (including composition rules){**D**}; characteristic modes {$\mathbf{D}_0$} (including parallel/serial composition rules) are not It can be used for any high-order calculus equation's probability-topology-the symmetric circle logarithm of the center zero point, combined with the shared time series, can quickly, accurately, analyze and calculate the roots of each calculus level.

(3) The circle logarithm and circle logarithm algorithm can form software for unsupervised learning, verification, analysis and calculation. The closed "group combination" has comprehensive consideration of robustness, anti-interference ability, publicity, privacy, and security.

7. Circular logarithm and a new generation of quantum computers

At present, the most urgent thing in various countries is to strive to create novel universal computers. Scientists are trying to realize artificial intelligence that uses physical machinery to replace or imitate human brain thinking, and expand the ability of humans to coordinate with nature. In fact, semiconductor design and manufacturing technologies have already appeared. Today, the work done is from 1 to 10 to 100. Some people are trying to build a three-dimensional 1000 computer, but the chip technology, materials, and algorithms cannot keep up, and the difficulty is greater.

8.1. Three indicative development stages of quantum computers

There are three internationally recognized development stages in the field of quantum computers:

(1) Develop high-precision computers with 50-100 qubits.

The Pan Jianwei team of the University of Science and Technology of China manufactures the "Nine Chapters" optical quantum computer; the Google team manufactures the "Plananus" quantum computer. The computing power reached 76 qubits. The indicators required in the first step have been achieved. In fact, the "Nine Chapters" and other optical quantum computers are machines that use the complexity of multi-particle quantum wave functions to solve computational problems. In other words, it uses quantum phenomena such as optical coherent superposition and entanglement to perform calculations.

According to the replies of the authors (Lu Chaoyang, Pan Jianwei) of the "Nine Chapters" of the "Mozi Salon" on March 17, 2021 to several online commentary articles such as Academician Tu Chuanzhi of Peking University, this type of optical quantum computer is analyzed from the perspective of independent logarithm. The algorithm corresponds to the calculation of neutral (discrete) light quantity particles in the calculus of the circle logarithm. Note that light has positive and negative particles to form a neutral quantum. It can be written as a calculus formula. Become a "one-variable S (S=76 degree calculus equation, called (50-100 level), K=±0 or ±1, known confidential or confidential notification conditions: S=76 (50-76-100 level); D0 ; Symmetry of function properties:

$‖x^{-1}=(\sqrt[S]{X})^{+1}‖=‖\{\mathbf{D}_0\}^{+1}=(\sqrt[S]{\mathbf{D}})^{+1}‖$;

Discriminant: $(1-\eta^2)=\{x_0/\mathbf{D}_0\}=\{0，1/2，1\}$;

Circle logarithm-calculus power function (time series) calculationK(Z±(S=50-100)±(N=0,1,2)±(q=qjik))/t；

(N=0,1,2)represents the value of the calculus order, ($q=q_{jik}$) represents the generator of the triplet, which is calculated using a power function (time series).

The symmetry of the existing light quantum, the input and output process involves Bose sampling. A unitary matrix of N·N is given in advance. The calculation task is to give the output samples related to the product sum formula (Permanent) by the classic computer (typical #P-hardwt problem). As the scale becomes larger, it takes an entire order of calculation time, which is invariant to the three unitary norms of the logarithm of the circle. The algorithm has no conflicts, and the calculation of the circle logarithm is clearer, simpler, and more widely used (it can be adapted to the calculation of symmetry and asymmetry).

(7.1.1)

$$\{X\pm(\sqrt[S]{\mathbf{D}})\}^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik))/t}$$
$$= ax^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik=0))/t}\pm bx^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik=1))/t}$$
$$+cx^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik=2))/t}\pm Px^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik=p))/t}+\ldots\pm\mathbf{D}$$
$$=(1/C_{(S\pm0)})^K x^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)-(q=qjik=0))/t}$$
$$\pm(1/C_{(S\pm1)})^K x^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)-(q=qjik=1))/t}\mathbf{D}_0{}^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)+(q=qjik=1)/t}$$
$$+(1/C_{(S\pm2)})^K x^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)-(q=qjik=2))/t}\mathbf{D}_0{}^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)+(q=qjik=2))/t}\pm\ldots$$
$$+(1/C_{(S\pm p)})^K x^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)-(q=qjik=p))/tt}\mathbf{D}_0{}^{KK(Z\pm(S=50\text{-}100)\pm(N=0,1,2)+(q=qjik=0))/t}$$
$$\pm(\mathbf{D_0})\}^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik=0))/t}$$
$$=\{x\pm(\sqrt[S]{\mathbf{D}})\}^{K(Z\pm(S=50\text{-}100)\pm(N=0,1,2)\pm(q=qjik))/t}$$

$=[(1-\eta^2)\{x_0 \pm \mathbf{D}_0\}]^{K(Z\pm(S=50-100)\pm(N=0,1,2)\pm(q=qjik))/t}$

$=[\{(1-\eta^2)(0,2)\cdot\{\mathbf{D}_0\}]^{K(Z\pm(S=50-100)\pm(N=0,1,2)\pm(q=qjik))/t}$;

(7.1.2) $(1-\eta^2)^{K(Z\pm(S=50-100)\pm(N=0,1,2)\pm(q=qjik))/t}=\{0 \text{ or } 1\}$; $K=(\pm 0 \text{ or } \pm 1)$;

The probability (or angular momentum) distribution of light particles is symmetric, and the state of its light particles (wave function or angular momentum direction) is calculated.

(7.1.3) $(1-\eta^2)^{K(Z\pm(S=50-100)\pm(N=0,1,2)\pm(q=qjik))/t}=\sum_{(S=+q)}(1-\eta^2)+\sum_{(S=-q)}(1-\eta^2)=0$;

The calculation result of formula (8.1.1) $(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}$ represents the vortex (five-dimensional rotation plus precession) radiation. It has been experimentally confirmed by the U.S.-Spain optical measurement team in 2018.

Analysis: If the light quantum is calculated according to the logarithm of the circle, the light particle is neutral and has uniformity (average value {x=x0}). The distance of the distribution does not affect the symmetry. It belongs to the discrete type {1} or the entanglement function is {0}Calculation; optical quantum calculation is symmetric {X=D0}, multivariate belongs to uniformity, and can be calculated accurately. The superposition of wave functions mentioned therein is essentially a uniform binary high-order second-order calculus equation. The calculus order (N=±0,1,2) belongs to the single variable calculus calculation system. Angular momentum (probability) calculation is the same as the calculation of the first-order calculus equation; the energy calculation is the same as the calculation of the second-order calculus equation.

At present, the calculation is in the form of angular momentum. Under the condition of a perfect circle (under the condition that the particle is uniform), the angular momentum and the logarithm of the circle have reciprocity, which satisfies the calculation of trigonometric functions. That is, (1-ηrθ2)=(1-ηr2)·(1-ηθ2)=1. If the multivariable is non-uniform, non-uniform distribution, and entangled calculation with "variable activity" ion state, the corresponding angular momentum of a perfect circle is non-uniform, and the photon calculation cannot meet the expected requirements, only the circle Logarithms can be processed smoothly. It shows that the form of angular momentum is difficult to adapt and the calculation is limited. At the same time, it shows that the development of optical quantum computers has encountered a bottleneck.

(2) For the high-precision preparation, manipulation and detection of large-scale multi-systems, the development of a coherent computer.

The development of a coherent computer for the superposition of the wave functions of non-uniform particles (actually the second-order calculus equation) is a multi-variable, non-uniform binary higher order formed by the "2-2 combination" of the non-repeated group of multiple elements and different particles Second-order calculus equation. The unevenness of its wave function and angular momentum change is difficult to control, and it cannot be realized by calculation in the form of positive fillet momentum. Traditional calculus theory can't be satisfied either. This involves the urgency that traditional mathematical theories must be reformed.

However, the reform of traditional mathematical theory of calculus involves mathematical basic theories, and reform of calculus theory has become a hot topic in the contemporary world. So far, all calculus reform theories have not made breakthroughs. "Break" cannot find the root cause and cannot be thorough, and "stand" cannot find the direction and is groundless. The core of the problem lies in "traditional calculus single variable, limit concept, not suitable for calculus multi-variable group combination, central zero concept. Calculus has completed its due historical role. The main point of calculus reform is to establish multivariable calculus Any high-order calculus equation model of the group combination requires the use of a unified irrelevant mathematical model to analyze and solve the arithmetic (addition, subtraction, multiplication, division, and power) between [0 to 1], so that machines can replace humans. It can be said that although the first indicator to the second indicator of a quantum computer is only one step away, the algorithm will undergo a qualitative change.

(3) Accumulate various technologies developed in the development of special quantum computers and analog computers, so that they can exceed the harsh fault tolerance threshold (99.9%) and the qubit computing power can reach more than one million. Develop general-purpose computers that can write programs.

To achieve this step, a reliable calculus equation algorithm must be established, which has a mathematical foundation of high stability, high accuracy, and high universality. Can be achieved. The essence of the current "light quantum computer" algorithm is the calculation of discrete calculus equations. Probabilistic analysis is realized through first-order calculus, which is suitable for statistics in the field of symmetry. The analysis in the field of asymmetry is expressed as the solution of the second-order calculus equation (or multi-element binary higher order calculus equation). According to this principle, people put forward a "topological quantum computer", because the traditional topology theory is converted to calculus The equation has certain difficulties, and topological quantum computers have not yet appeared. It can be seen that the new generation of quantum computers has a long way to go.

Analysis:

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To achieve this step, a reliable calculus equation algorithm must be established, which has a mathematical foundation of high stability, high accuracy, and high universality. Can be achieved. The essence of the current "light quantum computer" algorithm is the calculation of discrete calculus equations. Probabilistic analysis is realized through first-order calculus, which is suitable for statistics in the field of symmetry. The analysis in the field of asymmetry is expressed as the solution of the second-order calculus equation (or multi-element binary higher order calculus equation). According to this principle, people put forward a "topological quantum computer", because the traditional topology theory is converted to calculus The equation has certain difficulties, and topological quantum computers have not yet appeared. It can be seen that the new generation of quantum computers has a long way to go.

7.2. Topological circle logarithm and quantum computer

On March 17, 2021, the Norwegian Academy of Sciences awarded the Abel Prize in Mathematics to Laάszlo Lovάsz (Hungary) and Avi Wigderson (Avi Wigderson) from the United States, in recognition of their "experience in theoretical computing and discreteness". Fundamental contributions to mathematics and leadership in promoting them to the central field of modern mathematics.” Their work lays the foundation for applications ranging from Internet security to network research, and is useful for understanding the randomness in computing and exploring the effectiveness of effective computing. Made a fundamental contribution.

The above proves that the calculus equation becomes the characteristic modulus of invariance, converted to the logarithm of the circle of the irrelevant mathematical model, and the arithmetic analysis between {0 to 1}. Written as a universal formula

(7.2.1) $$W=(1-\eta^2)^{K(Z)/t}W_0$$

Where: $\{x\}^{K(Z)/t}=\{D_0\}^{K(Z)/t}$; $W_0=\{D_0\}^{K(Z)/t}$; time series K(Z)/t=K(Z±(S=q)±(N=0,1,2)±(q=qjik))/texpresses the

general formula of the calculus equation.
There are two contents here:

(1) Under the condition of symmetry $\{x\}^{K(Z)/t}=\{D_0\}^{K(Z)/t}$; at this time, the circle logarithm discriminant $(1-\eta^2)^{K(Z)/t}=\{0,1\}$; Said discrete computing. Inclusive of the currently widely used discrete computer, strictly speaking, it is a "probabilistic computer".

(2) Under the condition of asymmetry $\{x\}^{K(Z)/t}\neq\{D_0\}^{K(Z)/t}$; at this time, the circle logarithm discriminant equation $(1-\eta^2)^{K(Z)/t}\neq\{0,1\}$; said entangled (probability-topology) calculation. At present, people are mainly exploring what is called "neural network", trying to use physical machinery to replace the thinking activities of the human brain and make topological quantum computers. Function analysis applied to asymmetry conditions. Their characteristics are represented by the combination of $\{X\}=\{x_1x_2\ldots x_q\}$ elements without repetition, which is called a one-variable S-degree equation. Unknown function unit body $dx_{(S=q)}=(^{KS}\sqrt{x})=(^{KS}\sqrt{(x_1x_2\ldots x_q)}$; Known function condition $\mathbf{D}=\mathbf{D}_1\mathbf{D}_2\ldots\mathbf{D}_q$,

The logarithm of the topological circle is the "ratio of group combination" at each level,

(7.2.2) $$(1-\eta^2)^{K(Z)/t}=\{(^{KS}\sqrt{x}/\mathbf{D_0})\}^{K(Z)/t}=\{D/\mathbf{D_0}^{K(Z)/t}\};$$

Among them:

(1),$(^{KS}\sqrt{x}\leq\mathbf{D_0})$; K=+1, or$(1-\eta^2)^{+(Z\pm S\pm N\pm q)/t}\leq1$ represents the convergent entangled calculus equation;

(2),$(^{KS}\sqrt{x}\geq\mathbf{D_0})$; K=-1, or$(1-\eta^2)^{-(Z\pm S\pm N\pm q)/t}\geq1$ represents the expansive entangled calculus equation;

(3),$(^{KS}\sqrt{x}=\mathbf{D_0})$; K=±1, or$(1-\eta^2)^{K(Z\pm S\pm N\pm q)/t}$=(0 or 1) represents the characteristic mode of the discrete calculus equation, It can correspond to the "open and close" control and operation of the circuit switch, which is called "coherence".

(4), $(^{KS}\sqrt{x}\leftrightarrow\pm0\leftrightarrow\mathbf{D_0})$; K=±0or$(1-\eta^2)^{K(Z\pm S\pm N\pm q)/t}$=(1/2) represents the calculus equation of any order The probability of the second measurement of the center zero point-the symmetry of the topological balance transition point,

(5), $(^{KS}\sqrt{x}\leftrightarrow\mathbf{D_0})$; K=±(1, 0), or$(1-\eta^2)^{K(Z\pm S\pm N\pm q)/t}$=,0 to1), represents the closed total element Invariable, the topological change or iteration of each group combination of any order calculus equation.

That is to say, the circle logarithm not only has the discrete "open and closed" control and operation of the circuit switch (0 or 1); it can also reflect the topological relationship of each group combination under the condition of the total element unchanged. The asymmetry function is converted to the symmetry function for the topological expansion of high-dimensional space and high-order calculus equations. This is the task of the so-called "topological quantum computer". At present, in the form of continuous multiplication and multiplication of non-uniform multivariable elements, such as "neural network", trying to imitate the analysis and cognition of the human brain in topological geometric space activities, there are some difficulties in becoming a calculus equation. Solve, or become the mathematical foundation of a new generation of quantum computers.

In computers, mathematical simulations are often used to reflect

(1) Discrete calculation: There is no interaction between numbers (called inactive numbers) for probability calculation, and successful production such as a light quantum computer.

(2) Entanglement calculation: There is an interaction between numbers (called active numbers) for probability-topology-central zero calculation, such as a topological quantum computer. The logarithm of the circle must be encountered. The logarithm of the topological circle is listed here, which reflects the topological change of the asymmetry of the group combination between (0 to 1). In the calculation, the corresponding constant characteristic modulus **D** (each of the calculus equations Group combination of various forms). For example (Table 1), decimal system can be used to reflect the value and position of its topological energy.

7.3. Topological circle logarithm$(1-\eta^2)^{K(Z\pm J)/t}$={0 to 1}

The calculus equation is converted into characteristic modulus and circle logarithm. The logarithm of the topological circle describes the relationship between the combination forms $(1-\eta^2)^{K(Z\pm J)/t}=\{^{KS}\sqrt{x}/D_0\}$, and the symmetry of the central zero point establishes $\{X\}^{K(Z\pm J)/t}=[(1-\eta^2)\{D_0\}]^{K(Z\pm J)/t}$; ; Topological symmetry invariance $[\sum_{(S=-q)}(-\eta)+\sum_{(S=+q)}(+\eta)]^{K(Z\pm J)/t}=0$; or $[\sum_{(S=-q)}(1-\eta^2)^{-1}+\sum_{(S=+q}(1-\eta_2)^{+1}]^{K(Z\pm J)/t}=0$;

Table 1. Topological circle logarithm$(1-\eta^2)^{K(Z\pm J)/t}$={0 to 1}

Define the power function (time series): (K) function properties; (Z) infinite elements; (S) the number of arbitrary finite elements (power dimension); (Q) area; (N) calculus order and level;
(q+j) group combination form; (t) dynamic system; digital simulation table is {102}K(Z±J)/t corresponding characteristic mode$\{D_0\}^{K(Z\pm J)/t}$; J=(S±Q±M)或 J=(S·Q·M);

序列号	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
0.1	0	$(1-\eta_{01}^2)^K$	$(1-\eta_{02}^2)^K$	$(1-\eta_{03}^2)^K$	$(1-\eta_{04}^2)^K$	$(1\pm\eta_{05}^2)^K$	$(1-\eta_{06}^2)^K$	$(1-\eta_{07}^2)^K$	$(1-\eta_{08}^2)^K$	$(1-\eta_{09}^2)^K$	

											$(1-\eta_{10}^2)^K$
0.2	0	$(1-\eta_{11}^2)^K$	$(1-\eta_{12}^2)^K$	$(1-\eta_{13}^2)^K$	$(1-\eta_{14}^2)^K$	$\underline{(1\pm\eta_{15}^2)}^K$	$(1-\eta_{16}^2)^K$	$(1-\eta_{17}^2)^K$	$(1-\eta_{18}^2)^K$	$(1-\eta_{19}^2)^K$	$(1-\eta_{20}^2)^K$
0.3	0	$(1-\eta_{21}^2)^K$	$(1-\eta_{22}^2)^K$	$(1-\eta_{23}^2)^K$	$(1-\eta_{24}^2)^K$	$\underline{(1\pm\eta_{25}^2)}^K$	$(1-\eta_{26}^2)^K$	$(1-\eta_{27}^2)^K$	$(1-\eta_{28}^2)^K$	$(1-\eta_{29}^2)^K$	$(1-\eta_{30}^2)^K$
0.4	0	$(1-\eta_{31}^2)^K$	$(1-\eta_{32}^2)^K$	$(1-\eta_{33}^2)^K$	$(1-\eta_{34}^2)^K$	$\underline{(1\pm\eta_{35}^2)}^K$	$(1-\eta_{36}^2)^K$	$(1-\eta_{37}^2)^K$	$(1-\eta_{38}^2)^K$	$(1-\eta_{39}^2)^K$	$(1-\eta_{40}^2)^K$
0.5	0	$(1-\eta_{41}^2)^K$	$(1-\eta_{42}^2)^K$	$(1-\eta_{43}^2)^K$	$(1-\eta_{44}^2)^K$	$\underline{(1\pm\eta_{45}^2)}^K$	$(1-\eta_{46}^2)^K$	$(1-\eta_{47}^2)^K$	$(1-\eta_{48}^2)^K$	$(1-\eta_{49}^2)^K$	$(1-\eta_{50}^2)^K$
0.6	0	$(1-\eta_{51}^2)^K$	$(1-\eta_{52}^2)^K$	$(1-\eta_{53}^2)^K$	$(1-\eta_{54}^2)^K$	$\underline{(1\pm\eta_{55}^2)}^K$	$(1-\eta_{56}^2)^K$	$(1-\eta_{57}^2)^K$	$(1-\eta_{58}^2)^K$	$(1-\eta_{59}^2)^K$	$(1-\eta_{60}^2)^K$
0.7	0	$(1-\eta_{61}^2)^K$	$(1-\eta_{62}^2)^K$	$(1-\eta_{63}^2)^K$	$(1-\eta_{64}^2)^K$	$\underline{(1\pm\eta_{65}^2)}^K$	$(1-\eta_{66}^2)^K$	$(1-\eta_{67}^2)^K$	$(1-\eta_{68}^2)^K$	$(1-\eta_{69}^2)^K$	$(1-\eta_{70}^2)^K$
0.8	0	$(1-\eta_{71}^2)^K$	$(1-\eta_{72}^2)^K$	$(1-\eta_{73}^2)^K$	$(1-\eta_{74}^2)^K$	$\underline{(1\pm\eta_{75}^2)}^K$	$(1-\eta_{76}^2)^K$	$(1-\eta_{77}^2)^K$	$(1-\eta_{78}^2)^K$	$(1-\eta_{79}^2)^K$	$(1-\eta_{80}^2)^K$
0.9	0	$(1-\eta_{81}^2)^K$	$(1-\eta_{82}^2)^K$	$(1-\eta_{83}^2)^K$	$(1-\eta_{84}^2)^K$	$\underline{(1\pm\eta_{85}^2)}^K$	$(1-\eta_{86}^2)^K$	$(1-\eta_{87}^2)^K$	$(1-\eta_{88}^2)^K$	$(1-\eta_{89}^2)^K$	$(1-\eta_{90}^2)^K$
1.0	0	$(1-\eta_{91}^2)^K$	$(1-\eta_{92}^2)^K$	$(1-\eta_{93}^2)^K$	$(1-\eta_{94}^2)^K$	$\underline{(1\pm\eta_{95}^2)}^K$	$(1-\eta_{96}^2)^K$	$(1-\eta_{97}^2)^K$	$(1-\eta_{98}^2)^K$	$(1-\eta_{99}^2)^K$	$(1-\eta_{100}^2)^K$

(A), the table is the logarithm of the topological circle converted from the decimal $q=\{0\leftrightarrow 10^2\}$ to the "independent mathematical model".

(B), q element combination system q={0,1,2,3…J natural number} digital simulation is $\{10^J\}=\{D_0^J\}$ or $q=\{0\text{-}10^2\}$

(C), $\{X_{ij}\}=[(1-\eta^2)\{D_0\}]^{K(Z\pm J)/t}=[(1-\eta_{ji}^2)\{10^J\}]^{K(Z\pm(Q)\pm(S)\pm(N\pm J)\pm\ldots\pm(m)\pm(q+j)/t}$;

Among them: $(1-\eta_{ji}^2)$ corresponds to $\{10^J\}$, which means the accuracy of the topological circle logarithm may need to be calculated. The horizontal line indicates the zero point of the center relative symmetry

7.4. Time series K(Z±(S±Q±M)±N±q)/t

The calculus equations are converted into characteristic modules and circle logarithms, all of which have a shared time series with the same isomorphism. The time series can describe the sequence of any meaningful natural integer expression defined by the area, the number of bits, the combination state, and the digital simulation. The application of time series J=(S±Q±M) or tree state distribution J=(S·Q·M) can improve the calculation power of the calculus equation. However, this increase in computing power must rely on the "relative symmetry of the central zero point" to achieve. Including the expansion of high parallel multi-media states, concentric circles (rings), parallel circles (rings), vortex precession space-algebra-arithmetic-group combination controlled by time series.

Table 2. Power function (time series)K(Z±S±*Q*±*M*±*N*±*q*)/t

Define the power function (time series): (K) function properties; (Z) infinite elements; (S) the number of arbitrary finite elements (power dimension); (Q) area; (N) calculus order and level; (q+j) group combination form; (t) dynamic system; digital simulation table is $\{10^2\}^{K(Z\pm J)/t}$corresponding characteristic mode $\{D_0\}^{K(Z\pm J)/t}$; time series J=(S±Q±M) or J=(S·Q·M);

(A), natural number topological circle logarithm $(1-\eta^2)^{K(Z\pm J)/t}=\{10^J\}^{K(Z\pm(Q)\pm(S)\pm(N\pm J)\pm\ldots\pm(m)\pm(q+j)/t}$; Corresponding to the characteristic mode$\{10^J\}^{K(Z)/t}$

(B), calculus equation analog number:$[(1-\eta^2)\{D_0\}]^{K(Z\pm J)/t}=[(1-\eta^2)\{10^J\}]^{K(Z\pm(Q)\pm(S)\pm(N\pm J)\pm\ldots\pm(m)\pm(q+j)/t}$; Corresponding to the characteristic mode $\{^{KS}\sqrt{x}=D_0\}^{K(Z\pm J)/t}$

(C),$[(1-\eta^2)\{D_0\}]^{K(Z)/t}=(1-\eta^2)^{K(Z\pm S\pm Q\pm M\pm N\pm q)/}$; represents the logarithm of the circle (∏)It has a shared time series with real numbers $\{D_0\}$;

7.5. Logarithm of probability circle $(1-\eta_H^2)^{K(Z)/t}$

Probability calculation is the probability calculation of the first-order calculus equation of the calculus equation, reflecting the uneven degree of the element in the linear distribution, and finding the root solution through the logarithm of the probability circle can be written into a computer program. Time series J=(S±Q±M) or J=(S·Q·M);

Logarithm of probability circle: $(1-\eta_H^2)^{K(Z\pm J)/t}=[(1-\eta_H)\cdot(1+\eta_H)]^{K(Z\pm J)/t}=\{x_h/X_H\}=\{0 \text{ or } 1\}$;（K=+1,0,-1）;

Feature: Maintain the invariance of the level, nature, and characteristic mode of the calculus equation group combination $(1-\eta_H^2)^{K(Z)/t}=1$;

Satisfaction: Center zero symmetry invariance

$$\sum_{(S=-q)}(-\eta_H)+\sum_{(S+q)}(+\eta_H)=0;\ 或\sum_{(S=-q)}(1-\eta_H^2)^{-1}+\sum_{(S=+q)}(1-\eta_H^2)^{+1}=0;$$

That is, the sum of the logarithmic factors of the two measuring circles on the left and right of the center zero is equal.

Solution: According to the symmetry of the logarithmic factor distribution of the circle, find the root element elements $(1-\eta_H)\{D_0\}$and$(1+\eta_H)\{D_0\}$

Table 3. Logarithm of probability circle$(1-\eta^2)^{K(Z\pm J)/t}=\{0 \text{ or } (1/2) \text{ or } 1\}$

Define the power function (time series): (K) function properties; (Z) infinite elements; (S) the number of arbitrary finite elements (power dimension); (Q) area; (N) calculus order and level;(q+j) group combination form; (t) dynamic system; probability symmetry invariance $\sum_{(S=-q)}(-\eta_H)+\sum_{(S=+q)}(+\eta_H)=0$;; The digital simulation table is$\{10^2\}^{K(Z\pm J)/t}$ corresponds to the characteristic mode $\{D_0\}^{K(Z\pm J)/t}$； ; Time series J=(S±Q±M) or J=(S·Q·M);

序列号	**0**	**0.1**	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**
0.1	0	$\underline{(1\pm\eta_{11})}^K$	$(1+\eta_{12})^K$	$(1+\eta_{13})^K$	$(1+\eta_{14})^K$	$(1+\eta_{15})^K$	$(1+\eta_{16})^K$	$(1+\eta_{17})^K$	$(1+\eta_{18})^K$	$(1+\eta_{19})^K$	1
0.2	0	$(1-\eta_{21})^K$	$\underline{(1\pm\eta_{22})}^K$	$(1+\eta_{23})^K$	$(1+\eta_{24})^K$	$(1+\eta_{25})^K$	$(1+\eta_{26})^K$	$(1+\eta_{27})^K$	$(1+\eta_{28})^K$	$(1+\eta_{29})^K$	1
0.3	0	$(1-\eta_{31})^K$	$(1-\eta_{32})^K$	$\underline{(1\pm\eta_{33})}^K$	$(1+\eta_{34})^K$	$(1+\eta_{35})^K$	$(1+\eta_{36})^K$	$(1+\eta_{37})^K$	$(1+\eta_{38})^K$	$(1+\eta_{39})^K$	1
0.4	0	$(1-\eta_{41})^K$	$(1-\eta_{42})^K$	$(1-\eta_{43})^K$	$\underline{(1\pm\eta_{44})}^K$	$(1+\eta_{45})^K$	$(1+ \eta_{46})^K$	$(1+\eta_{47})^K$	$(1+\eta_{48})^K$	$(1+\eta_{49})^K$	1
0.5	0	$(1-\eta_{51})^K$	$(1-\eta_{52})^K$	$(1-\eta_{53})^K$	$(1-\eta_{54})^K$	$\underline{(1\pm\eta_{55})}^K$	$(1+\eta_{56})^K$	$(1+ \eta_{57})^K$	$(1+\eta_{58})^K$	$(1+\eta_{59})^K$	1
0.6	0	$(1-\eta_{61})^K$	$(1-\eta_{62})^K$	$(1-\eta_{63})^K$	$(1-\eta_{64})^K$	$(1\pm\eta_{65})^K$	$\underline{(1\pm\eta_{66})}^K$	$(1+\eta_{67})^K$	$(1+\eta_{68})^K$	$(1+\eta_{69})^K$	1
0.7	0	$(1-\eta_{71})^K$	$(1-\eta_{72})^K$	$(1-\eta_{73})^K$	$(1-\eta_{74})^K$	$(1\pm\eta_{75})^K$	$(1+\eta_{76})^K$	$\underline{(1\pm\eta_{77})}^K$	$(1+\eta_{78})^K$	$(1+\eta_{79})^K$	1
0.8	0	$(1-\eta_{81})^K$	$(1-\eta_{82})^K$	$(1-\eta_{83})^K$	$(1-\eta_{84})^K$	$(1\pm\eta_{85})^K$	$(1+\eta_{86})^K$	$(1+\eta_{87})^K$	$\underline{(1\pm\eta_{88})}^K$	$(1+\eta_{89})^K$	1
0.9	0	$(1- \eta_{91})^K$	$(1- \eta_{92})^K$	$(1-\eta_{93})^K$	$(1- \eta_{94})^K$	$(1- \eta_{95})^K$	$(1- \eta_{96})^K$	$(1- \eta_{97})^K$	$(1- \eta_{98})^K$	$\underline{(1\pm\eta_{99})}^K$	1

{q} is {10} baseq=$\{0-10^2\}$ converted to probability circle logarithm $[(1\pm\eta_H)]^{K(Z\pm J)/t}=\{10^2\}^{K(Z\pm J)/t}$ Find the root solution corresponding to the characteristic modulus {D02}.

{q} is the custom base q={0,1,2…J} converted to probability numerical circle$[(1\pm\eta_{ij})\cdot\{D_0^j\}]^{K(Z\pm J)/t}$corresponding characteristic modulus$\{D_0^J\}$ Seek the root solution.

Among them:$(1-\eta_{ji}^2)$ corresponds to$\{10^J\}$, which means the accuracy of the topological circle logarithm may need to be calculated. The horizontal line indicates the zero point of the relative symmetry of the center.

In this way, the reformed calculus equation is converted into characteristic modulus and circle logarithm, which is called circle logarithm algorithm, which is carried out in a closed group combination. Any object or high-parallel/serial multi-media state through digital simulation can establish calculus equation and convert it into circle logarithm and time series arithmetic calculation between {0 to 1}, which is written into a computer program to become The chip architecture of a new generation of computers. And expand from the traditional two-dimensional large base area $\{2\}^N$ to the high-dimensional space small base area $\{10\}^{K(Z\pm(M\pm S\pm N)\pm(q\pm J))/t}$ time series The chip architecture corresponding to the program algorithm has the advantages of simple program, small size, large capacity, high efficiency, good performance, high accuracy (fault tolerance threshold zero error), and to ensure the robustness, openness, privacy, security, The superiority of stability.

(a) The calculus equation, through the characteristic mode and the logarithm of the circle, and the shared time series, its qubit computing power can reach billions of positive and negative "fine-tuning levels"(10^{220}) or more.

(b), the fault tolerance threshold can reach (100%) zero error automatic error correction capability.

(c). The circle logarithm has isomorphic consistency time calculation, which can simplify the general-purpose computer for writing programs.

The circle logarithm algorithm has the advantages of closed robustness, accurate calculation with zero error, simplified chip architecture, material saving, cost saving, improved work efficiency, and powerful computing power. It will provide reliable, feasible, concise, universal and powerful mathematical algorithms for the manufacture of a new generation of quantum computers (neural network engines).

8. Summary

An important feature of the development of scientific computing in recent years is numerical simulation and dynamic display. Such as simulating the cosmic space without gravity, the movement of celestial bodies, the plasma of nuclear fusion, the activity of enzymes, human organs and iliac, atmospheric circulation, the ability to imitate brain nerve thinking, etc., and the development of modeling and calculation of data and mechanism fusion. Many important issues in almost all disciplines often involve "quality-time-space" multi-region, multi-level, multi-scale, with a high degree of anisotropy, symmetry asymmetry, uniform non-uniformity, continuous and discrete, convergence-balance (Conversion)-expansion, their mutual coupling, mutual restriction, and mutual conversion are all related to the reform and application of calculus equation, an important calculation tool, and it has always been a frontier research topic in contemporary mathematics.

Chinese mathematician Gu Baocong said in "History of Chinese Mathematics" (1964), "Suan Shishu Jing" (1963), and "The Great Achievements of Chinese Mathematics" (1988): In the 16th century, due to historical reasons, the newly established Qing Dynasty used the West The missionaries have the power of censorship and cooperated with the "Han Culture" movement to delete, tamper with, and burn a large number of books from ancient China to the Ming Dynasty, almost only three-thousandths of the books. Not only has China's mathematics been disrupted, it has also affected the development of world mathematics. The few mathematics works that survived, such as "Nine Chapters of Mathematical Scriptures" and "Arithmetic Treasures", fortunately escaped the fate of destruction. They represented the highest level of mathematics in China at that time. Monographs such as Wang Wensu's "A Precious Book of Arithmetic" and other monographs include "similar to solving higher-order equations in one variable", "similar to calculus derivatives", etc., such as the so-called "solving higher-order equations" in current textbooks. "Home Method" (1819) is actually the algorithm of "Increase Multiplication and Prescription" of the Song Dynasty in China.

In the 1660s, Newton summarized the "binomial" and "calculus" for 400 years. The development of calculus drove science, and the progress of science gave new content to mathematics. Calculus occupies an important position in the history of science, and it is indispensable. World science is developing, but mathematics has not continued to play to the advantages of polynomials. Traditional calculus has been developed in a partial way, and various functions and algorithms extended from it have made mathematical calculations from simple to more complex. Due to the inherent defect of the infinitesimal ratio of traditional calculus, the integer expansion of the power function cannot be guaranteed, and the "approximate approach error analysis" is adopted. This calculus algorithm is also said to be imported into China from the West. It not only misled Chinese mathematics and world mathematics, but also misled a large number of century-old mathematics problems that could not be solved. This is the disaster of traditional calculus.

If the elements of the calculus equation are linked to "quality-time and space", it becomes a physical problem; linked to "genes" becomes a biological issue; linked to "neurons" becomes a problem of artificial intelligence and neural network engine. In the same way, the element is linked with other disciplines to become a problem for other disciplines. It can be seen that reforming calculus to transform the circle logarithm algorithm is the mathematical foundation of all subjects. It is the fundamental and universal algorithm reform of traditional mathematics.

The unified standard of the real world is reflected in the macro-discrete quantum theory and the micro-entangled relativity in physics, which belong to the different attributes of "high-dimensional and low-dimensional" and "continuous and discrete", which are difficult to reconcile, resulting in sharp contradictions. Through the probability-topology-center zero movement processing of the logarithm of the circle, and through the calculation of the shared time series, the arithmetic analysis is unified between [0 to 1].

The circle logarithm algorithm establishes the ratio of infinite group combination values, ensures the stability and accuracy of calculation, realizes zero-error integer expansion, and smoothly solves a series of mathematical problems. For example, there are more than ten centuries of problems that have been solved in this article. The definition theorem of the logarithm of the composition circle. Make the circle logarithm algorithm from the traditional complex calculation to the simple. Facts have proved that the development of Newton's "binomial" and calculus has indeed taken a "necessary" detour. The traditional calculus in the West must be reformed.

In 1975, Wu Wenjun, an academician of the Chinese Academy of Sciences, said: The development of modern mathematics mainly depends on Chinese mathematics. Now is the time. It is time to clean up the source and correct the chaos. The world should give Chinese mathematics a fair treatment; China should give the world mathematics a deeper, more concise, and more reliable new mathematics. This new mathematics is called the circle logarithm algorithm-the arithmetic analysis that unifies the algebra-geometry-number theory-group theory and the algorithms of various schools in the closed circle logarithm [0 to 1] of the unrelated mathematical model. The circle logarithm algorithm satisfies the internationally recognized problem-breaking requirements of the "Langlands Program" composed of a series of guesses.

The logarithm of the circle is represented mathematically as the integration of sharp contradictory discrete calculus calculations and entangled calculus algorithms into a whole; physical integration of continuous macroscopic gravitational theory and microscopic quantum theory into a whole. The reform of basic mathematics theory and innovative chip manufacturing capabilities often reflect a country's basic theory and comprehensive strength. Many countries and research institutions in the world are engaged in exploratory research. The competition is fierce. Now everyone is on the same starting line.

This is just as Li Zhengdao said in "Introduction: Prospects for Scientific Development in the 21st Century" in "100 Scientific Problems in the 21st Century": The 21st century will link the micro and the macro as a whole. This will not only affect physics, but may also affect life. development of. The micro and the macro must be combined, and there will be some breakthroughs when linking them, and this breakthrough will affect the future of science. The calculus reform has important practical and historical significance.

In view of the wide application of the circle logarithm algorithm, it may become a novel mathematical basis and the algorithm basis of a new generation of computers. The newly established circle logarithm algorithm system has broad application prospects. Mathematicians, experts, teachers, and netizens at home and abroad are invited to make criticisms and suggestions, and work together to make substantive contributions to the advancement of human mathematics.

Attached application examples:

Example: Analysis of "from to 1" in one-variable two to five-degree calculus equations

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Abstract: At present, the calculation of 2nd/3rd/4th degree equations in one variable is complicated, and it is difficult to universally apply. There is no solution for entangled one-variable 5th degree calculus equations. Propose a circle logarithm algorithm: One of the highlights is the integration of discrete data statistics and entangled neural network analysis, and arithmetic analysis is performed between unlabeled circle logarithms {0 to 1}. It involves the foundation of mathematics, the reform of traditional calculus, and the algorithm of a new generation of computer neural networks. Here is a reorganization of the bylaws to solve the complete problem of the 2nd/3rd/4th/5th degree calculus equation, and provide relevant experts, scholars, readers to verify and check the calculation, and it can also be converted into the compilation of new computer programs. 197

Key words: Calculus equation; group combination; characteristic module; circle logarithm; power function (time series);

1 Introduction

The concept of single variable "infinitesimal" related to series, integral tables, and calculus has not changed in the past 400 years. Promoting the development of scientific analysis and synthesis, the traditional calculus algorithm that has dominated for hundreds of years cannot adapt to it, exposing its congenital defects. Many people at home and abroad are trying to reform and reform calculus and calculus equations, solve the entangled cognitive analysis of the next generation of quantum computers with quantum computing, neural networks, and artificial intelligence as the subject, and carry out discrete big data statistics and calculations. The force reaches 78 qubits. For entanglement analysis, there is no method available.

In particular, Abel's Impossibility Theorem "Fifth and above equations cannot have radical solutions". This statement misleads the exploration direction of the entire mathematics community, hinders the development of the "binomial", and hinders the innovation and innovation of mathematics. Reform and scientific development.

In contemporary physics, the non-uniform, asymmetric, and interactive "entangled state" phenomenon of quantum particles appears, and the concept of calculus multivariate "group combination-central zero" {X}S=(x1x2...xS) is proposed. How to break through the old framework of traditional calculus to reform or reorganize and give new vitality to calculus? . In other words, whoever breaks through the "one-variable quintic equation (including N=±0,1,2-order calculus equation)" will have the dominant power in mathematical reform.

By-law: the complete solution of a one-variable 2nd/3rd/4th/5th degree calculus equation can be extended to any one-variable high-order calculus equation. Provide interested experts and readers with verification, verification, and research.

2. Basic rules of circle logarithm algorithm

The highlight of the reformed calculus equation: the traditional "infinitesimal(dy/dx)-limit" is changed to "infinite group combination $\{(\sqrt[S]{X})/\mathbf{D}_0\}$-central zero". The arithmetical analysis of the circle logarithm between {0 to 1} established invariable characteristic mode and irrelevant mathematical model through the principle of relativity.

The important feature of logarithm of circle: "Three Units (1) Theorem of invariance of logarithm of circle". The logarithmic factor of the circle has no specific element content in the closedness [0,1] linear expansion analysis.

Logarithm of probability circle: $(1-\eta_H^2)=1$;

The logarithm of the center zero point circle: $(1-\eta_\omega^2)=\{0,(1/2),1\}$;

Topological circle logarithm: $(1-\eta_T^2)=\{0 \text{ to } 1\}$;

Circle logarithm: $(1-\eta^2)=(1-\eta_H^2)(1-\eta_\omega^2)(1-\eta_T^2)=\{0 \text{ to } 1\}$;

Linear superposition of logarithmic factors of circles: $(\eta)=(\eta_1)+(\eta_2)+\ldots+(\eta_q)=\{0 \text{ to } 1\}$;

Non-linear superposition of circle logarithmic factors: $(\eta^2)=(\eta_1^2)+(\eta_2^2)+\ldots+(\eta_q^2)=\{0 \text{ to } 1\}$;

Discriminant: $(1-\eta^2)^{KS}=[(x)/\mathbf{D}_0]=\ldots=[(x)/(\mathbf{D}_0)]^{KS}\leq 1$; it means that the equation is established and can be solved analytically.

2.1 Logarithm of probability circle

(A), Fitness function, space:

(2.2.1) $(1-\eta^2)=(x_0)/\mathbf{D}_0=(x)/(\mathbf{D}_0)^2=\ldots=(x)/(\mathbf{D}_0)^S$;

(2.2.2) $(1-\eta^2)=\boldsymbol{\Sigma}_{(i=S)}[(x_{05}^2)/(D_{05}^2)]=\ldots\boldsymbol{\Sigma}_{(i=S)}\Pi_{(i=q)}[(x_0^q)/(D_0^q)]=\{0 \text{ to } 1\}$;

(B), Root and probability distribution

Satisfy symmetry:

(2.1.3) $(1-\eta^2)=\Sigma_{(i=S)}(x)/\mathbf{D}_0=\Sigma_{(i=S)}(x^2)/(\mathbf{D}_0^2)=\Sigma_{(i=S)}[(x)/(\mathbf{D}_0)]^S=(0)$;

(C), Adapt to real, complex variable function, space, vector,

(2.1.4) $x_1=(1-\eta_{h1})D_0$;

$x_2=(1-\eta_{h2})D_0$;

$x_3=(1\pm\eta_{h3})D_0$;

$x_4=(1+\eta_{h4})D_0$;

$x_5=(1+\eta_{h5})D_0$;

functional:In the formula: $(1\pm\eta_{h3})D_0$ (called the relative symmetry position and value of the center zero point.

2.2, Topological circle logarithm

Characteristics: The ratio between group combinations. According to the topology and symmetry, the state and elements of the group combination can be conveniently carried out.

(2.1.3) (1-η2)=(x0)/D0=(x)/(D0)2=(x)/(D0)S;

(2.2.2) (1-η2) = Σ(i=S)[(x052)/(D052)]={0 to 1};

2.3, The logarithm of the symmetrical circle of the center zero point,

Features: According to topology-probability and symmetry, the relationship between parallel/serial group combinations can be processed. Ensure the balance of the equation and the relative symmetry of the conversion:

(2.3.1) $\boldsymbol{\Sigma}_{(i=-S)}(1-\eta_\omega^2)+\boldsymbol{\Sigma}_{(i=-S)}(1-\eta_\omega^2)$

$=\boldsymbol{\Sigma}_{(i=-S)}[(x_{05}^2)/(D_{05}^2)]+\Sigma_{(i=+S)}[(x_{05}^2)/(D_{05}^2)]$

$=\boldsymbol{\Sigma}_{(i=-S)}[(x_{05})/(D_{05})]+\Sigma_{(i=+S)}[(x_{05}^2)/(D_{05}^2)]=0$;

Topological circle logarithmic symmetry: (1-ηT2)=(1/2);

(2.3.2) $(1-\eta_T^2)B=[\boldsymbol{\Sigma}_{(i=+S)}(1-\eta_T)+\boldsymbol{\Sigma}_{(i=-S)}(1+\eta_T)]B=(0)$;

(2.3.3) $\boldsymbol{\Sigma}_{(i=+S)}(+\eta_T)^{+1}=\boldsymbol{\Sigma}_{(i=-S)}(-\eta_T^2)^{-1}$;

(2.3.4) $(1-\eta_T^2)B=[\boldsymbol{\Sigma}_{(i=+S)}(1-\eta_T)^{(+1)}\cdot\boldsymbol{\Sigma}_{(i=-S)}(1+\eta_T)^{(-1)}]B=(1)$;

(2.3.5) $\boldsymbol{\Sigma}_{(i=+S)}(1-\eta_T^2)^{+1}=\boldsymbol{\Sigma}_{(i=-S)}(1-\eta_T^2)^{-1}$;

2.4, Circle logarithm composition

(2.4.1) $(1-\eta^2)=(1-\eta_H^2)(1-\eta_\omega^2)(1-\eta_T^2)=\{0 \textbf{ to } 1\}$;

2.5, Calculus circle logarithmic equation

(2.5.1) $(1-\eta^2)=(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q=0)/t}+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q=1)/t}+\ldots$

$+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q=p)/t}=\{0 \textbf{ to } 1\}$;

2.6 Three-dimensional logarithmic equation of calculus circle (Cartesian coordinates)

(2.6.1) $(1-\eta^2)=(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{i}+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{j}$

$+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{k}=\{0 \textbf{ to } 1\}$;

2.7, Calculus circle logarithmic electric rotation equation

(2.7.1) $(1-\eta^2)=(1-\eta_{[yz]}^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{i}+(1-\eta_{[zx]}^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{j}$

$+(1-\eta_{[xy]}^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{k}=\{0 \textbf{ to } 1\}$;

Where: $(1-\eta_{[yz]}^2)$represents the yz rotation plane, the axis of rotation x direction; $(1-\eta_{[zx]}^2)$represents the zx rotation plane, the axis of rotation y direction;$(1-\eta_{[xy]}^2)$ Represents the xy rotation plane, the rotation axis z direction;

2.8. Define the calculus power function K(Z)/t=K(Z±(S)±Q±M±N±m±p±q)/t. Among them (Z) is infinite; (S) the number of elements, the dimension, the first level area; (Q) the second level area; (M) the third level area; (N=±0,1,2,3)、(+N) integral order, (-N) differential order; (m=a to b) element variation range, definite integral; (p) item order; (q) or {qjik} group element combination form.

2.9. Definition properties Power function: K=(+1,0,-1), (K=+1) positive power convergence function; (K=±0,±1) central power, balance, transfer function; (K=-1) Negative power spread function, which has no numerical meaning and is represented by "K". When K=0, or K=+1, it is generally not written. Only when diffusion-type entanglement (K=-1) appears, it is confirmed or controlled by the specific boundary condition discriminant.

2.10. Define the characteristic mode: $\{X_0\}^{K(Z)/t}=\{X_0\}^{K(Z\pm(S)\pm Q\pm M\pm N\pm m\pm p\pm q)/t}$(called the average of positive, medium and inverse functions) value)

(2.10.1) $\{X_0\}^{K(Z)/t}=\mathbf{\Sigma}_{(S=q)}[(1/C_{(S\pm N\pm q)})^K\mathbf{\Pi}_{(S\pm q)}(x_1{}^K+x_2{}^K+\ldots+x_2{}^K)]^{K(Z)/t}$;

2.11. Define the group combination coefficient:

(2.11.1) $(1/C_{(S\pm N\pm q)})^K=\{[(P+1)(P-0)\ldots\cdot 3\cdot 2\cdot 1\,!\ ]/[(S-0)(S-1)\ldots(S-P)!]\}^K$;

Note: The traditional combination coefficient C|nm cannot meet the requirements of multi-element, multi-region, multi-character, and calculus order. Rewrite (1/C(S±N±q))K. And it can be rewritten into a power function with the calculus symbol.

2.12 **Simply prove the reciprocity and isomorphism of functions and circle logarithms**

This note adapts to any analytic function that can be decomposed into analytic elements into "2" solution functions. This principle can also be adapted to be decomposed into an analytic element of "q≥2" analytic function (explanation in another chapter. Omitted).

Suppose:

The average value of the positive power function；:

$$x_0{}^{(+1)}=[(1/2)^{+1}(x_1{}^{+1}+x_2{}^{+1})]^{+1};$$

General formula of positive power function：

$$x_0{}^{(+P)}=[\mathbf{\Sigma}(1/C_{(S\pm N\pm q)})^{+1}\mathbf{\Pi}_{(S\pm N\pm P)}(x_p)]^{(+P)};\quad \{+P\}=2\ldots J \text{ Natural numbe)};$$

Average value of negative power function:

$$x_0{}^{(-1)}=[(1/2)^{-1}(x_1{}^{-1}+x_2{}^{-1})]^{-1};$$

General formula of negative power function:

$$x_0{}^{(-P)}=[\mathbf{\Sigma}(1/C_{(S\pm N\pm q)})^{-1}\mathbf{\Pi}_{(S\pm N\pm P)}(x_p)]^{(-P)};\quad \{-P\}=2\ldots J\text{Natural numbe)};$$

Combined and written into the general formula:

$$x_0{}^{K(P)}=[\mathbf{\Sigma}(1/C_{(S\pm N\pm q)})^{K(P)}\mathbf{\Pi}_{(S\pm N\pm P)}(x_p)]^{K(P)};\quad (K=+1,\pm 0\pm 1,-1)$$

Boundary conditions:

$$\mathbf{D}_0=(\mathbf{D}_1\cdot\mathbf{D}_2);\quad \mathbf{D}_0=(1/2)(\mathbf{D}_1+\mathbf{D}_2);$$

Where: $\mathbf{\Sigma}(1/C_{(S\pm N\pm q)})^{+1}\mathbf{\Pi}_{(S\pm N\pm P)}$ represents the P-P combination of q elements

Proof: The second term group combination in the equation (term order):

$$7x^{(-1)}=2\cdot\mathbf{D}_0{}^{(+1)}\cdot x^{(-1)}=2\cdot 3.5\cdot\sqrt{}(x_1x_2)^{(-1)}$$

2.12.1. **The reciprocity of the average value of the two elements:**

Available:

$$x_1x_2/[(1/2)^{+1}(x_1{}^{+1}+x_2{}^{+1})]^{(+1)}=[(1/2)(x_1{}^{+1}+x_2{}^{+1})/x_1x_2]^{(-1)}$$
$$=[(1/2)^{(-1)}(x_1{}^{(-1)}+x_2{}^{(-1)})]^{(-1)}=x_0{}^{(-1)};$$

In the same way, the opposite can also be established;$x_1x_2/[(1/2)^{(-1)}(x_1{}^{(-1)}+x_2{}^{(-1)})]^{(-1)}=x_0{}^{(+1)}$;

(2.12.1)
$$x_1x_2=x_1x_2/(1/2)(x_1{}^{+1}+x_2{}^{+1})\cdot(1/2)(x_1{}^{+1}+x_2{}^{+1})$$
$$=[(1/2)^{-1}(x_1{}^{-1}+x_2{}^{-1})]^{-1}\cdot[(1/2)^{+1}(x_1{}^{+1}+x_2{}^{+1})]^{+1}$$
$$=x_0{}^{(-1)}\cdot x_0{}^{(+1)}=x_0{}^{(\pm1)};$$

2.12.2, **circle logarithm reciprocity**

(2.12.2)
$$(1-\eta^2)^{(\pm1)}=x_0{}^{(-1)}\cdot\mathbf{D}_0{}^{(+1)}$$
$$=x_0{}^{(-1)}/\mathbf{D}_0{}^{(-1)}\cdot x_0{}^{(+1)}/\mathbf{D}_0{}^{(+1)}$$
$$=(1-\eta^2)^{(-1)}\cdot(1-\eta^2)^{(+1)};$$

2.13, **circle logarithm isomorphism**

(2.13.1)
$$(1-\eta^2)^{K(P)}=x_0{}^{(-P)}/x_0{}^{(+P)}$$
$$=[\mathbf{\Sigma}(1/C_{(S\pm N\pm q)})^{(-1)}\mathbf{\Pi}_{(S\pm N\pm P)}(x_p)]^{(-P)}/[\mathbf{\Sigma}(1/C_{(S\pm N\pm q)})^{(+1)}\mathbf{\Pi}_{(S\pm N\pm P)}(x_p)]^{(+P)};$$

(P=0,1,2,…P Natural number);

In particular, since it has been proved that the calculus power function can be expanded by integers, the above two-element proof can be extended to the analytic function of the higher-order calculus equation whose analytic element is "2", and {q}=±1,2...J) and Integrate the reciprocity of any high-order differential (N=-1,2…J) and integral (N=+1,2…J), etc. The multivariable elements of calculus can be iterated successively, step by step, and in order .

3. The calculus of the one-dimensional quadratic calculus equation

3.1.1, one-variable quadratic zero-order calculus equation (called the original function) (S=2), (N=±0);

Known: (S=2); D_0; **D**;

(3.1.1) $(x\pm\sqrt{\mathbf{D}})^2=Ax^2\pm Bx+\mathbf{D}$

$=x^2\pm 2x\mathbf{D_0}+(\sqrt{\mathbf{D}})^2$

$=(1-\eta^2)^2\cdot(x_0\pm\sqrt{\mathbf{D}_0})^2$

$=\{(1-\eta^2)^2\cdot(0,2)\cdot\mathbf{D_0}\}^2$;

According to $x_1x_2=(1-\eta^2)\mathbf{D_0}^2$;

Get $x_1=(1-\eta)\mathbf{D_0}$; $x_2=(1+\eta)\mathbf{D_0}$;

3.1.2、Three results of equation calculation:

（1）Represents balance, rotation, conversion, and subtraction in complex space;

(3.1.2) $(x_0-\sqrt{\mathbf{D}_0})^2=[(1-\eta^2)\cdot\{0\}\cdot\mathbf{D_0}]^2$;

（2）Represents precession, vector superposition, complex space addition, precession;

(3.1.3) $(x_0+\sqrt{\mathbf{D}_0})^2=[(1-\eta^2)\cdot\{2\}\cdot\mathbf{D_0}]^2$;

（3）Represents the vortex space and motion state;

(3.1.4) $(x_0\pm\sqrt{\mathbf{D}_0})^2=[(1-\eta^2)\cdot[\{0\leftrightarrow 2\}\cdot\mathbf{D_0}]^2$;

3.2. [Example 1] Discrete quadratic equation $(1-\eta^2)^{(\pm 0)}=1$,

Definition 3.2.1 Diffusion type: means that the value corresponding to the element in the group combination characteristic mode is equal to the average value, (K=±0 or ±1);

Known::(S=2); B=7(or D_0=3.5); **D**=3.5^2=12.00;

Discriminant: $(1-\eta^2)^2=(\sqrt{12.25}/3.5)^2=12.25/12.25=1$; it belongs to the statistical calculation of the discreteness of convergence.

The logarithm of the central power circle:$(1-\eta^2)^{(0)}=(1-49/49)^{(0)}=(1)^{(0)}$;

Feature mode: $D_0^{(0)}=x_0^{(0)}=[(1/2)^{(0)}(x_1^{(0)}+x_2^{(0)})]^{(0)}=[(3.5/3.5)]^{(0)}$;

Analysis: For the function of convergence: $\eta^2=1/49$; $\eta=1/7$; Function properties：(N=±0), (K=±0 or ±1);

(3.2.1) $(x\pm\sqrt{\mathbf{D}})^2=x^2\pm Bx+\mathbf{D}$

$=x^2\pm 7x+(\sqrt{12.25})^2$

$=[x_0^2\pm 2\cdot x_0\cdot 3.5+3.5^2]$

$=(x_0\pm D_0)^2$

$=\{0，2\}^2\cdot 3.5^2$;

Three calculation results of the equation:

(3.2.2) $(x-\sqrt{\mathbf{D}})=\{0\}\cdot 3.5^2=0$;

(3.2.3) $(x+\sqrt{\mathbf{D}})=\{2\}\cdot 3.5^2=49$;

(3.2.4) $(x_0\pm\sqrt{\mathbf{D}_0})^2=\{0\leftrightarrow 2\}\cdot 49$;

3.3. [Example 2] Convergence One-dimensional quadratic equation (1-η2)(+1)≤1;

Definition 3.3.1Convergence type:: refers to the value corresponding to the element in the group combination characteristic mode is less than the average value, (K=+1);

Known: :(S=2); B=7(orD_0=3.5); **D**=3.5^2=12.00;

Discriminant: $(1-\eta^2)^2=(\sqrt{12}/3.5)^2=12/12.25=0.96\le 1$, it belongs to the convergent entangled calculation.

Feature mode: $D_0^{(+1)}=x_0^{(+1)}=[(1/2)^{(+1)}(x_1^{(+1)}+x_2^{(+1)})]^{(+1)}$;

Analysis: For the function of convergence: $\eta^2=1/49$; $\eta=1/7$; Function properties:(N=±0), (K=+1);

(3.3.1) $(x\pm\sqrt{\mathbf{D}})^2=x^2\pm Bx+\mathbf{D}$

$=x^2\pm 7x+(\sqrt{\mathbf{12}})^2$

$=(1-\eta^2)[x_0^2\pm 2\cdot x_0\cdot 3.5+3.5^2]$

$=[(1-\eta^2)\cdot(x_0\pm D_0)]^2$

$=(1-\eta^2)\cdot\{2\rightarrow 0\}^2\cdot 3.5^2$;

Three calculation results of the equation:

(3.3.2) $(x-\sqrt{\mathbf{D}})=(1-\eta^2)\cdot\{0\}\cdot 3.5^2=0$;

(3.3.3) $(x+\sqrt{\mathbf{D}})=(1-\eta^2)\cdot\{2\}\cdot 3.5^2=48$;

(3.3.4) $(x_0\pm\sqrt{\mathbf{D}_0})^2=(1-\eta^2)\cdot[\{0\leftrightarrow 2\}\mathbf{D_0}]^2$;

Solve the root

Two methods, the root calculation results are consistent:

The logarithm of the symmetric topological circle at the center zero point (B=7),($\mathbf{D}_0$=3.5):

$(1-\eta_T^2)^2=(\sqrt{12}/3.5)^2=12/12.25=0.96\leq 1$; $\eta^2=1/49$; $\eta=1/7$;

$(1-\eta_T^2)B=[(1-\eta_T)^{+1}\cdot(1+\eta_T)^{-1}]B=0$; $\eta_T=(1/7)$; (satisfying symmetry).。

$x_1=(1-\eta_T)B=(1-1/7)\cdot 7=3$;

$x_2=(1+\eta)B=(1+1/7)\cdot 7=4$;

3.4.1 Quadratic equation in one variable (1-η2)(+1)≥1 or (1-η2)(-1)≤1

Definition 3.4.1 Diffusion type: refers to the value corresponding to the element in the characteristic mode of the group combination is greater than the average value, (K=-1);.

[Example 3**]** Diffusion quadratic equation in one variable

Known: :(S=2); $D_0=x_0=3.5$; $\mathbf{D}=16$;

Discriminant: $(\eta^2)^{(+1)}=(\sqrt{16}/3.5)^{(+1)}=1.3061221\geq\mathbf{1}$;

Or: $(1-\eta^2)^{(-1)}=[1-(\sqrt{16}/3.5)^2]^{(-1)}=[1-(4/3.5)^2]^{(-1)}=0.020408=(1/49)\leq 1$;

Feature mode: $D_0^{(-1)}=x_0^{(-1)}=[(1/2)^{(-1)}(x_1^{(-1)}+x_2^{(-1)})]^{(-1)}$;

Analysis: For the function of diffusivity:$\eta^{(-2)}=1/49$; $\eta^{(-1)}=1/7^{(-1)}$; Function properties:: (K=-1),(N=±0) It is a diffusion-type entangled calculation.

(3.4.1) $(x\pm\sqrt{\mathbf{D}})^{K(2)}=x^{(-2)}\pm Bx^{(-1)}+\mathbf{D}$

$=\sqrt{10}\cdot[x^{(-2)}\pm 7x^{(-1)}+(\sqrt{480})^{(-2)}]$

$=(1-\eta^2)^{(-2)}\cdot[x_0^{(-2)}\pm 2x_0^{(-1)}\cdot D_0^{K(+1)}+3.5^2]^{K(-1)}$

$=(1-\eta^2)^{(-2)}\cdot[x_0^{(-2)}\pm 2x_0^{(-1)}\cdot 3.5^{(+1)}+3.5^2]^{K(-1)}$

$=[(1-\eta^2)\cdot(x_0\pm D_0)]^{(-2)}$

$=[(1-\eta^2)\cdot\{0\rightarrow 2\}\cdot 3.5]^{-(2)}$; (representing the state of diffusion motion)

The logarithm of the symmetric probability circle at the center zero point（D_0=3.5）， $\eta^{(-1)}=1/7^{(-1)}$:

$(1-\eta_H^2)D_0=[(1-\eta_H)^{(-1)}+(1+\eta_H)^{(-1)}]D_0=0$; $\eta_H=(0.5/3.5)$; (satisfying symmetry).

$x_1^{(-1)}=(1-\eta_H)^{(-1)}\mathbf{D_0}=(1-0.5/3.5)^{(-1)}\cdot 3.5=3^{(-1)}$;

$x_2^{(-1)}=(1+\eta)^{(-1)}\mathbf{D_0}=(1+0.5/3.5)^{(-1)}\cdot 3.5=4^{(-1)}$;

Verification (1) Cause: $(1-\eta^2)^{(-1)}=(16/12.25)$;

$\mathbf{D}=(1-\eta^2)^{(-1)}\mathbf{D}_0^{(-2)}=[(16/12.25)]\cdot 3.5^2=3^{(-1)}\cdot 4^{(-1)}=16$;

3.5. [Example 4] Parametric one-dimensional quadratic equation $G(1-\eta^2)^{(+1)}\leq 1$ or $(1-\eta_G^2)^{(-1)}\geq 1$

$G(1-\eta^2)^{(+1)}\leq 1$ or $(1-\eta_G^2)^{(-1)}\geq 1$; (Respectively indicate that the parameters are combined in the equation or logarithm of the circle);

Definition 3.4.2 Parametric type: refers to the value (or parameter G) that interferes with the element outside the group combination feature mode due to non-group combination elements, which is often greater or less than the value at the two ends of the group combination, and features that affect the closure The modulus value automatically appears unbalanced. After removing (identifying) the parameters, the equation restores the original calculus balance equation. It is called "robustness" in computers.

Known: :(S=2); B=7; $\mathbf{D}$=480=40·12= G·12;

Pay attention to the known conditions: (B=S·$\mathbf{D}_0$=2·(3.5)=7; there is a parameter G=40 in the over-value part; there is G·$\mathbf{D}_0^2$=490 in synchronization;

Discriminant analysis: $(1-\eta^2)=(1-490/\sqrt{480}))=\sqrt{40}\cdot(1-48/49)=0.9795918\leq(1)$; ;

(K=+1); It belongs to the convergent entangled calculation.

That is, the parameter G=40 has:

Isotropic: $\{X^2\}=(\sqrt{G}\cdot x_1)\cdot(\sqrt{G}\cdot x_2)=G\cdot x_1x_2$;

Or anisotropy: $\{X^2\}=(\sqrt{G_1}\cdot x_1)\cdot(\sqrt{G_2}\cdot x_2)=G\cdot x_1x_2$;

For the function of convergence:$\eta^{(+2)}=1/49$; $\eta^{(+1)}=1/7^{(+1)}$; function properties: (N=±0), (K=+1); Characteristic modulus: $G\cdot D_0^{(+1)}=G\cdot x_0^{(+2)}=G\cdot[(1/2)^{(+1)}(x_1^{(+1)}+x_2^{(+1)})]^{(+1)}$;

Analysis: According to the known: (S=2); B=7 (or $\mathbf{D}_0$=3.5); the maximum boundary condition of the corresponding equation should be not far from the average value (or $\mathbf{D}_0$=3.5), there is a parameter "G=40" set in the element ,

(A). Parametric one-dimensional quadratic equation

(3.5.1) $(x\pm\sqrt{\mathbf{D}})^{K(2)}=x^{(2)}\pm Bx^{(1)}+\mathbf{D}$

$=G\cdot[x^{(2)}\pm 7x^{(1)}+(\sqrt{480})^{(2)}]$

$=(1-\eta^2)^{(2)}\cdot G\cdot[x_0^{(2)}\pm 2x_0^{(1)}\cdot 3.5^{(1)}+3.5^2]^K$

$= G\cdot[(1-\eta^2)\cdot(x_0\pm D_0)]^{(2)}$

$= G\cdot[(1-\eta^2)\cdot\{0，2\}\cdot 3.5]^{(2)}$；

(3.5.2) $x_1^{(+1)}=\sqrt{G_1}\cdot[(1-\eta)\cdot B]^{(+1)}=\sqrt{G_1}\cdot[(1-1/7)\cdot 7]^{(+1)}=\sqrt{G_1}\cdot[7\cdot 3]^{(+1)}$；

$x_2^{(+1)}=\sqrt{G_2}\cdot[(1+\eta)\cdot \mathbf{D_0}]^{(+1)}=\sqrt{G_2}\cdot[(1+1/7)\cdot 7]^{(+1)}=\sqrt{G_2}\cdot[7\cdot 4]^{(+1)}$；

In the formula: √10 represents the diffusion parameter "G" of this equation. According to the basic element (X02) characteristic modulus is unchanged, the polynomial coefficient (B) parameter "G=√10" includes the parameters, and the parameters depend on the components of the boundary conditions (or password notification).

(B). Each equation has three calculation results (K=+1.0.-1):

(1) Represents the balance and rotation of the diffusive entanglement type;

(3.5.3) $(x-\sqrt{\mathbf{D}})^{(2)}=G\cdot(1-\eta^2)\cdot[\{0\}\cdot 3.5]^{(-2)}=0^{K(2)}$；

(2) Represents the precession and superposition of the convergent entangled type;

(3.5.4) $(x+\sqrt{\mathbf{D}})^{(2)}=G\cdot[(1-\eta^2)\cdot\{2\}\cdot 3.5]^{(2)}=G\cdot 1920$；

(3), represents the vortex space of diffusion;

(3.5.5) $(x_0\pm\sqrt{\mathbf{D}_0})^{(2)}=G\cdot[(1-\eta^2)\cdot\{2\rightarrow 0\}\cdot 3.5]^{(2)}$；

(C), The two methods of solving roots can eliminate "parameter "G". Refer to the calculation using discrete neutral power function:

The logarithm of the symmetric topological circle with the center zero point （B=7），G=40；$(1-\eta)^{(2)}=49$：$\eta^{K(2)}=(1/7)^{K(2)}$；

Check symmetry:$(1-\eta^2)=[(1-\eta)+(1+\eta)]=[(1-\eta^2)^{+1}\cdot(1-\eta^2)^{-1}]=[(1-1/7)+(1+1/7)=0$；(satisfied).

Verification (1): $G\cdot(1-\eta^2)^{K(+2)}\cdot[3.5^{K(+2)}-2\cdot 3.5^{K(+2)}+3.5^{K(+2)}]=G\cdot 0$；

Verification (2): $G\cdot(1-\eta^2)^{K(+2)}\cdot[3.5^{K(+2)}+2\cdot 3.5^{K(+2)}+3.5^{K(+2)}]=G\cdot 1920$；

3.6. One-dimensional quadratic first-order and second-order calculus equations **(K=+1,0,-1),(N=±0,1,2);**

3.6.1、 one-variable quadratic first-order calculus equation(K=+1,0,-1),(N=±0,1);

Features: (1-η2)K(Z±(S=2)+(N=-1)±(P=-1)±(m)±(qjik=1))/t={(S√D)/D0)K(Z±(S=2)+(N=-1)±(P=-1)±(m)±(qjik=1))/t;

The power function (time series) factor (S=2),(N=-1),(P=-1).{q}={qjik=-1}, differential means to reduce by one order:

(3.6.1) $\{X\pm({}^S\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P-1)\pm(m)\pm(q))/t}$

$=\underline{A({}^S\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=-1)\pm(P-1)\pm(M)\pm(qjik=0))/t}\pm B({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(N=-1)\pm(P)\pm(m)\pm(qjik=-1))/t}$

$+({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$

$=\pm B({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=-1))/t}+({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=4)\pm(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$

$=(1-\eta^2)[x_0\pm\mathbf{D}_0]^{K(Z\pm(S=2)+(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=-1))/t}$

$=(1-\eta^2)\{(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)+(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=-1))/t}$；

3.6.2, one-variable quadratic first-order calculus equation (K=+1,0,-1), (N=±0,1);

Power function (time series): (S=2),(N=±0,1),(P=+1).{q}={qjik=+1}, integral means to increase one order:

(3.6.2) $\{X\pm({}^2\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik+1))/t}$

$=\underline{A({}^S\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$

$\pm B({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik=+1))/t}$

$+\underline{({}^S\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+0)\pm(m)\pm(qjik=+1))/t}$

$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik=0))/t}$

$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik=0))/t}$；

Or add a first-order integral by a first-order derivative:

(3.6.3) $\{X\pm({}^2\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik+1))/t}$

$=\pm B({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik-1))/t}$

$+({}^S\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=-1+1)\pm(m)\pm(qjik=-1+1))/t}$

$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$

$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$；

[Example 5] One-dimensional quadratic first-order integral part equation (1-η2)K(Z±(S=2)+(N=-1+1)±(qjik))/t≤1;

Known: (S=2); (N=+1) B=8 (or D0=4.0); D=15;, power function: K(Z±(S=2)+(N=+1) ±(qjik))/t

Analysis: Boundary conditions (generally given zero-order and polynomial conditions): D0=4.02=16.00; with the balance of the first-order differential equation, it must satisfy (√15)K(Z±(S=2)+(N=- 1+1)±(qjik))/t; it means the first-order integration of the first-order differentiation (N=-1+1=0). According to the isomorphism of the circle logarithm, we get

Discriminant: (1-η2)2={√15)/4.0}2={15 /16}=0.9374≤1; η2=(1/16); η=(1/4);

It belongs to the calculation of the entangled calculus equation of convergence.

(3.6.4) $\{X\pm({}^{2}\sqrt{\mathbf{15}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik+1))/t}$
$=\pm B({}^{S}\sqrt{\mathbf{15}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik-1))/t}$
$+({}^{S}\sqrt{\mathbf{15}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=-1+1)\pm(m)\pm(qjik=-1+1))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{4.0}]\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{4.0}\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$;

(3.6.5) $\{X-({}^{2}\sqrt{\mathbf{15}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=+1)\pm(m)\pm(qjik+1))/t}=\{(1-\eta^2)\cdot(0)\cdot\{\mathbf{4.0}\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$;

(3.6.6) $\{X+({}^{2}\sqrt{\mathbf{15}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=+1)\pm(m)\pm(qjik+1))/t}=\{(1-\eta^2)\cdot(2)\cdot\{\mathbf{4.0}\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$;

Root element: the upper basis: $D_0=4.0$; $\eta=(1/4)$; to establish the balance of the circle logarithm: $(+\eta)+(-\eta)=(+1/4)+(-1/4)=0$;

(3.6.7) $X_1=(1-\eta)\mathbf{D}_0=(1 - 1/4)\cdot 4=3$;
$X_2=(1+\eta)\mathbf{D}_0=(1+1/4)\cdot 4=5$;

In particular, regardless of the expansion type, convergence type, neutral calculus equation seeking roots, the discrete type (original function, zero-order calculus equation) calculation and root finding can still be restored.

3.7. Discussion:

(1), In the one-variable quadratic equation of the calculus equation, $\{x^2=x_1x_2\}(x_1\neq x_2)$is an equation composed of the uncertainty and asymmetry of the two elements$(x\pm\sqrt{\mathbf{D}})^2$, through the circle pair The number is converted to relative symmetry $(1-\eta^2)(x_0\pm D_0)^2$, and get $(x^2=(1-\eta^2)x_0^2$
$=(1-\eta)x_0\cdot(1+\eta)x_0)$ can be transformed into an elliptical geometric space. In this way, calculus not only has a close relationship with algebraic geometry, but also with group combination and arithmetic analysis.

(2), The multivariable elements in the calculus equation are processed through the logarithm of the center zero point circle, reflecting any asymmetry of values, functions, etc., which can be analyzed and solved for relative symmetry. In this way, Heisenberg's "uncertainty principle" in which the circle logarithm and physics are connected smoothly to deal with quantum mechanics is the "relative certainty principle".

(3), The logarithm of the circle describes the mathematical model of "hidden quantum transmission" in physics and the "ghost particle" described by Ai through diffusion-type entanglement calculus, as well as the "uncertainty" described by Heisenberg "Converted to relative certainty.

(4), Circular logarithm algorithm or explanation On March 2, 2021, the American Fun Science website reported the news published on the website of the Israel Institute of Technology: Steinhauer's team confirmed the "Hawking radiation" through a laboratory black hole-Hawking thought it was successful The right photon $(1-\eta^2)^{K(Z-(S=2)+(qjik))/t}$(K=+1,0,-1)or(K=+1,-1) may be decomposed Come:
One photon is absorbed by the black hole $(1-\eta^2)^{K(Z-(S=2)+(qjik))/t}$(K=±0), the other photon $(1-\eta^2)^{K(Z-(S=2)+(qjik))/t}$(K=±0) Escape into space. The absorbed photon has negative energy $(1-\eta^2)^{K(Z-(S=2)+(qjik))/t}$(K=+1), which will eliminate energy from the black hole in the form of mass (that is, with the black hole (1-η2)K(Z-(S=2)+(qjik))/t(K=-1) combined into neutral light quantum $(1-\eta^2)^{K(Z-(S=2)+(qjik))/t}$ (K=±0) escape, and the escaped photon becomes Hawking radiation.

4. Three-tuple generator calculus zero-order, first-order, and second-order equations

The "triad generator $\{q_{jik}\}$" is proposed here, which means a unit body composed of three basic elements. It not only deals with the relationship between high-dimensional and low-dimensional, but also solves the parallel and serial, continuous multiplication and The relationship and problems of continuous addition can also be introduced into the coordinate system to represent the high-dimensional space belonging to the low-dimensional three-dimensional space $\{q\}\in\{q_{jik}\}$, which provides conditions for physics calculations and computer program editing, and greatly improves the combination of calculus and multivariable groups Accuracy (zero error) and computing power (infinite program).

4.1, the three-tuple generator, one-variable three-dimensional calculus, zero-order equation

Definition 4.1.1 Convergence Discrete type calculation (K=±0): It represents the neutral function, balance, and transformation of the properties of the combined elements in the group.

Definition 4.1.2 Convergence entanglement calculation (K=+1); it means the positive power function (convergence) change of the element properties in the group combination.

Definition 4.1.3 Diffusion entanglement calculation (K=-1): Represents the negative power function (diffusion) change of the element properties in the group.

Definition 4.1.4 Calculation of large creep (K unchanged, $+\eta_u^2$); it means the convergence to small creep of small elements within the group combination element.

Definition 4.1.5 Small creep calculation (K is constant, $-\eta_v^2$); it means the large creep diffusion to the large element within the group combination element.

Definition 4.1.6 relationship between circle logarithm and size creep ($+\eta_u^2$ and diffusion $-\eta_v^2$), the creep change is included in the topological circle logarithm

There are:

(A)、 $(1-\eta_T^2)=(1-\eta_T^2)\cdot[(1-\eta_u^2)+(1-\eta_v^2)]=(1-\eta_{Tuv}^2)$;

(B)、 $(1-\eta^2)=(1-\eta_{Tuv}^2)\cdot(1-\eta_\omega^2)\cdot(1-\eta_r^2)=\{0 \text{ to } 1\}$;

4.1.1 One-dimensional cubic equation of the generator of the three-tuple

Features:(q=3),(N=±0),{q}∈{q_{jik}};(qjik=0,1,2,3);{q}={q_{uv}}={q_{jik}}; calculus unit $dx^{(N)}=({}^{KS}\sqrt{D})^{(N)}$.

Known conditions: group combination unit body {q}, triple generation element element {q_{jik}}; satisfies ($S=\Sigma_{(q=3)}q\in\Sigma_{(q=3)}q_{jik}=\Sigma_{(q=3)}3$); average value D0; boundary condition $\mathbf{D}=\mathbf{\Pi}_{(q=3)}(\mathbf{D}_1\cdot\mathbf{D}_2\cdot\mathbf{D}_3)$; ($\mathbf{D}_1\neq\mathbf{D}_2\neq\mathbf{D}_3$);

Discriminant:$(1-\eta^2)=(x_{qjik}/\mathbf{D}_0)$; There are three states, and the equation that satisfies the equilibrium condition has a solution. :

(1), $(1-\eta^2)^{(K=+1)}=(x_{qjik}/\mathbf{D}_0)=1$Represents balance, rotation, conversion, complex space); belongs to (K=±0) discrete statistics;

(2), $(1-\eta^2)^{(K=+1)}=(x_{qjik}/\mathbf{D}_0)\leq1$; belongs to (K=+1) convergent entangled calculation;

(3), $(1-\eta^2)^{(K=-1)}=(x_{qjik}/\mathbf{D}_0)\geq1$;Representing five-dimensional-six-dimensional vortex motion and space); belongs to (K=-1) diffusive entanglement calculation;

(4), (1-ηu2)=(xu/D0)≤1; belongs to (K=+1,+ηu) convergent entangled creep calculations; it means that the elements converge to smaller elements within the group combination. (xu) represents the element within the group combination that is smaller than the entanglement value.

(5), $(1-\eta_v^2)=(x_v/\mathbf{D}_0)\geq1$;belongs to(K=+1, $-\eta_v$) convergent entangled creep calculations; it means that the elements converge towards smaller elements within the group combination. (xv) represents an element greater than the entangled value in the group combination.

(6) The known function contains the parameter G; creep {quv}={q}={qjik}; periodicity T=2πn(n=0,1,2,…natural numbers).

(7) Coefficient distribution: : 1: 3: 3: 1; sum $\{2\}^3=8$;

(4.1.1) $$x^3\pm\mathbf{B}x^2+\mathbf{C}x\pm\mathbf{D} =x^3\pm3x^2+3x\pm\mathbf{D} =\{(1-\eta^2)(x_0\pm\mathbf{D}_0)\}^3 =\{(1-\eta^2)(0,2)(\mathbf{D}_0)\}^3;$$

(4.1..2) $$0\leq(1-\eta^2)=[({}^3\sqrt{x_1x_2x_3})/\mathbf{D}_0]^3\leq1;$$

4.1.2. Three calculation results of the equation:

(1) Represents balance, rotation, conversion, complex space);

(4.1..3) $$(x_0-\sqrt{\mathbf{D}_0})^3=[(1-\eta^2)\cdot\{0\}\cdot\mathbf{D_0}]^3;$$

(2) Represents precession, vector superposition, precession complex space);

(4.1.4) $$(x_0+\sqrt{\mathbf{D}_0})^3=[(1-\eta^2)\cdot\{2\}\cdot\mathbf{D_0}]^3;$$

(3) Representing five-dimensional-six-dimensional vortex motion and space);

(4.1.5) $$(x_0\pm\sqrt{\mathbf{D}_0})^3=[(1-\eta^2)\cdot\{0\leftrightarrow2\}\cdot\mathbf{D_0}]^3;$$

4.1.3. The symmetry of the zero point at the center of the circle logarithm is balanced, and the root is found by $(1-\eta_H^2)$D.

(4.1..6) $$(1-\eta_H^2)\mathbf{D}_0=\mathbf{\Sigma}_{(i=+S)}(+\eta_H)\mathbf{D}_0+\mathbf{\Sigma}_{(i=-S)}(-\eta_H)\mathbf{D}_0=0;$$

Or: $$\mathbf{\Sigma}_{(i=-S)}(-\eta_H)=\mathbf{\Sigma}_{(i=+S)}(+\eta_H);$$

(4.1.7) $$x_1=(1-\eta_{H1})\mathbf{D}_0;\quad x_2=(1-\eta_{H2})\mathbf{D}_0;\quad x_3=(1+\eta_{H3})\mathbf{D}_0;$$

($S=q\in q_{jik}=3$)means that the space when {q}≥4 is constricted in the low-dimensional three-dimensional space.

4.2. Three-tuple generators, one-variable three-dimensional first-order, second-order calculus equations

Features: (S=3),(N=±0,1,2),(q_{jik}=0,1,2,3);

When: (S=3), the unit body less than or equal to three elements is equal to the triple generator {q}={q_{jik}}: (q_{jik}=1,2,3) represents the combined form (N=-1,2,3), reduce the order by one (first-order differential), two (first-order differential), and three (first-order differential). On the contrary (integral) (N=+1,2,3) means that the integral is increased.

Power function: K(Z±(S=3)±(N=0,1,2)±(m=0)±(qjik=3)/t abbreviationK(Z±(S=3)±(N=±0,1,2)/t;

Definition 4.2.1 The one-dimensional cubic second-order equation of the three-tuple generator consists of three parts: zero-order, first-order, and second-order. The calculus order is reformed into a power function (time series) (N=±0,1,2) /t description.

General formula of power function:

K(Z±(S=3)±Q±M±(±N=0,1,2,3)±(m=a-b)±(q=0,1,2,3)/t;

Indicates that the calculus order has zero, first, second, and third order; (P=0,1,2,3) The order of the combination items increases or decreases according to the order value; {q=(0,1,2,3) } Element (S+1) combination form; ±Q±M represents the area and level where the element is located; (±m=a to b) variable element activity range, called definite integral.

Three-tuple generator calculus equation:

(4.2.1) $(x\pm(\sqrt[3]{\mathbf{D}})\}^{K(Z\pm(S=3)\pm(N=\pm0,1,2)\pm(qjik=3)/t}=\mathbf{A}x^{K(Z\pm(S=3)\pm(N=\pm2)\pm(qjik=0)/t}$
$\pm\mathbf{B}x^{K(Z\pm(S=3)\pm\pm(N=\pm0,1,2)\pm(qjik=1)/t}+\mathbf{C}x^{K(Z\pm(S=3)\pm(N=\pm0,1,2)\pm(qjik=2)/t}\pm\mathbf{D}$
$=\{(1-\eta^2)\cdot(x_0\pm\mathbf{D}_0)\}^{K(Z\pm(S=3)\pm(N=\pm0,1,2)\pm(qjik=3)/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot(\mathbf{D}_0)\}^{K(Z\pm(S=3)\pm(N=\pm0,1,2)\pm(qjik=3)/t}$;

(4.2.2) $(1-\eta^2)^3=\{(\sqrt[S]{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(N=\pm0,1,2)\pm(qjik=3)/t}=\{0 \text{ to } 1\}$;

where： $S=\mathbf{\Sigma}_{(S\pm q)}\{q_{jik}\}$: indicates that any high-order $\{q\geq4\}$ calculus equation belongs (contracted) to the low-dimensional triplet generator, and generates "zero-order, first-order" in the three-dimensional space. , Second-order" calculus dynamic system, indicating the vortex motion of its rotation and precession.

4.3. [Example 6] Cubic equation in one variable and Fibonacci sequence

The Fibonacci sequence "every term is the sum of the first two terms" is a special case of the "triple" general formula, the center zero-point circle logarithm is between three elements, and the circle logarithmic factor "each factor Equal to the sum of the first two factors", (1-η(1+2)2)=(1-η(3)2).

Known: Power dimension element:(S=3)； Average value: $D_0=x_0=14$； Boundary condition：D=2184；

Analysis: $D_0^2=x_0^2=14^2=196$； $D_0^3=x_0^3=14^3=2744$； $D=(\sqrt[3]{2184})^3$；

Discriminant: ：$(1-\eta^2)^3=(\sqrt[3]{D}/D_0)=(\sqrt[3]{2184}/14)^3=2184/2744=0.795920\leq1$； it belongs to entangled calculation.

(4.3.1) $(x\pm\sqrt[3]{2184})^3=x^3\pm42x^2+42x\pm(\sqrt[3]{2184})^3$
$=x^3\pm3\cdot14x^2+3\cdot14x\pm2184$
$= (1-\eta^2)^3[x_0^3\pm3\cdot14x_0^2+3\cdot196x_0\pm2744]$
$=(1-\eta^2)^3(x_0\pm14)^3$
$=(1-\eta^2)^3\{0,2\}^3 14^3$；

Three calculation results:

(4.3.2) $\{x-\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\}\cdot14]^3=(1-\eta^2)\cdot0$；

(4.3.3) $\{x+\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\}\cdot14]^2=(1-\eta^2)\cdot8\cdot2024=16192$；

(4.3.4) $\{x\pm\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\leftrightarrow2\}\cdot14]^2=(1-\eta^2)\cdot(0\leftrightarrow8\cdot2024)=(0\leftrightarrow16192)$；

Solve the root: According to the average value $\mathbf{B}\cdot\mathbf{D}_0=14\cdot3=42$ between the three elements $(x_1x_2x_3)$, satisfy

（1）、 Probability: $(1-\eta_H^2)=(1-\eta_1^2)+(1-\eta_2^2)+(1-\eta_3^2)=1$；

（2）、 Symmetry: $(1-\eta_H^2)=[(1-\eta_1)+(1-\eta_2)]-[(1+\eta_3)]=0$；

Choice: $(1-\eta^2)^3=(\sqrt[3]{2184}/14)^3=2184/2744=0.795920=33/42$;

Symmetry is not satisfied. To span iteration$(1/2)^2$, select a new logarithmic factor of the circle

$(1/2)^2(1-\eta_H^2)B=(1/2)^2(2184/2744)\cdot42=8/42$;

Continue to test whether symmetry is satisfied,

（3）、Select again: $(1-\eta_H^2)=7/42$：$(B=3\cdot D_0=42$； $\mathbf{D}_0=14)$

$(1-\eta_H^2)\mathbf{D}_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]\mathbf{D}_0=0$；

Symmetry factor verification

(4.3.5) $(1-\eta_H^2)\mathbf{D}_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]\mathbf{D}_0$
$=[(1-\eta_1^2)+(1-\eta_2^2)]-[(1+\eta_3^2)]\mathbf{D}_0$
$=[(1-6/14)+(1-1/14)]-[(1+7/14)]\mathbf{D}_0$
$=[(1-8/42)+(1-13/42)]-[(1+21/42)]\mathbf{B}$
$=(7/14)-(7/14)=(21/42)-(21/42)=0$；

Solve the roots:

(4.3.6) $x_1=(1-\eta_{H1}^2)\mathbf{D_0}=(1-6/14)14= (1-8/14)14=8$;
$x_2=(1-\eta_{H2}^2)\mathbf{D_0}=(1-1/14)14= (1-13/14)14=13$;
$X_3=(1-\eta_{H3}^3)\mathbf{D_0}=(1+7/14)14=(1-21/14)14=21$；

Verification (1):： $\mathbf{D}=8\cdot13\cdot21=2184$；

Verification (2)： $(1-\eta^2)\cdot[14^3-3\cdot14)^3+3\cdot14^3-14^3=0$；

4.4、discuss:

Based on the isomorphism of the circle logarithm$(1-\eta^2)^3=(\sqrt[3]{D}/D_0)$, adapt to the Fibonacci sequence $(1-\eta^2)^{K(Z\pm(S=3))}=(\sqrt[3]{D}/D_0)^{K(Z\pm(S=3))}$ infinite sequence. Satisfy the circle logarithm factor:

$(\eta_H)\mathbf{D}_0=\mathbf{\Sigma}_{(i=+S)}(+\eta_H)\mathbf{D}_0+\mathbf{\Sigma}_{(i=-S)}(-\eta_H)\mathbf{D}_0=0$ or solve the infinite Pebonacci sequence and application The mystery.

4.4. [Example 7] Discrete cubic equation with one variable

Known: Power dimension element: (S=+3); Average value:: $\mathbf{D}_0=x_0=14$; Boundary condition: $\mathbf{D}=\mathbf{D}_0^3=14^3=2744$; ;

Analysis: $D_0^2=x_0^2=14^2=196$; $\mathbf{D}_0^3=x_0^3=14^3=2744$; $\mathbf{D}=(^3\sqrt{2744})^3$;

Discriminant: $(1-\eta^2)^3=(^3\sqrt{2744}/14)^3=2744/2744=1$;

Discrimination result: (K=±0), it belongs to the discrete calculus equation.

(4.4.1) $(x\pm{}^3\sqrt{2744})^3=x^3\pm42x^2+42x\pm(^3\sqrt{2744})^3$
$=x^3\pm3\cdot14x^2+3\cdot14x\pm2744$
$=[x_0^3\pm3\cdot14x_0^2+3\cdot196x_0\pm2744]$
$=(x_0\pm14)^3$
$=\{0,2\}^3 14^3$;

(4.4.2) $\{x-\sqrt{\mathbf{D}}\}^3=\{0\}\cdot14]^3=0$;

(4.4.3) $\{x+\sqrt{\mathbf{D}}\}^3=[\{2\}\cdot14]^3=8\cdot2024=21952$;

(4.4.4) $\{x\pm\sqrt{\mathbf{D}}\}^3=[\{2\leftrightarrow0\}\cdot14]^3=(8\cdot2744\leftrightarrow0)=(21592\leftrightarrow0)$; represents the five-dimensional-six-dimensional vortex space from 21592 and Balance and conversion between the center zero point of 0.

Symmetry: check the circle logarithmic factor, because $(1-\eta^2)^3=1$; the symmetry obtains $\eta^2=(\pm1/2)$;

Choose the average value $\eta^2\cdot D_0=14$; $(-7/14)+(+7/14)=0$;

Find the root solution: symmetry makes the roots of the three elements the same,

(4.3.5) $x_1=x_2=x_3=14$;

4.5. [Example 8] Entangled one-dimensional cubic equation

Known: Power dimension element:(S=+3); Average value: $D_0=x_0=14$; Boundary condition: $\mathbf{D}=2024$(multiplying three elements);

Discriminant: $(1-\eta^2)^3=(^3\sqrt{2024}/14)^3=2024/2744=0.737609\leq1$; it belongs to the convergent calculus equation. $\eta^2=(2744-2024)/2744=0.262390\leq1$;

(4.5.1) $(x\pm{}^3\sqrt{2074})^3=x^3\pm42x^2+42x\pm(^3\sqrt{2024})^3$
$=x^3\pm3\cdot14x^2+3\cdot14x\pm2024$
$=(1-\eta^2)^3[x_0^3\pm3\cdot14x_0^2+3\cdot196x_0\pm2744]$
$=(1-\eta^2)^3(x_0\pm14)^3$
$=(1-\eta^2)^3\{0,2\}^3 14^3$;

(4.5.2) $\{x-\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\}\cdot14]^3=0$;

(4.5.3) $\{x+\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\}\cdot14]^3=8\cdot2024=16192$;

(4.5.4) $\{x\pm\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\to0\}\cdot14]^3=(8\cdot2024\to0)=(16192\to0)$; represents five-dimensional-six-dimensional The vortex space converges from 16192→0 to the central zero point find the root solution

According to: three element sum B=42; three element product $\mathbf{D}=2024$ the center zero point is between $x_1x_2$andx_3.

Symmetry of the central zero point: $\eta=(1/2)^2\cdot 31=8$ (the numerator is an integer); $\eta^2=:8/42$ is not satisfied by the trial, Again $\eta^2=9/42$ (satisfying balance and symmetry).

(4.5.5) $(1-\eta^2)\mathbf{D_0}=[(1-\eta_1)+(1-\eta_2)]-(1+\eta_3)]\mathbf{D_0}$
$=[(1-6/14)+(1-3/14)-(1+9/14)]$
$=(9/14)-(9/42)=0$;(satisfies the symmetrical balance condition).

Root element:

(4.5.6) $x_1=(1-\eta_1^2)\mathbf{D_0}=(1-6/14)14=8$;
$x_2=(1-\eta_2^2)\mathbf{D_0}=(1-3/14)14=11$;
$x_3=(1+\eta_3^2)\mathbf{D_0}=(1+9/14)14=23$;

Verification (1):: $\mathbf{D}=8\cdot11\cdot23=2024$;

Verification (2): $(1-\eta^2)\cdot[14^3-3\cdot14^3+3\cdot14^3-14^3=0$;

4.6. [Example 9] Creeping one-dimensional cubic equation

On entangled calculus equations, creep changes between root elements

Known: Power dimension element:(S=-3); Average value: $\mathbf{D}_0=x_0=14$; $\mathbf{D}=(8\cdot11\cdot23=2024$ (see example question 8)

Boundary conditions: $\mathbf{D_{uv}=(D_u \leftrightarrow D \leftrightarrow D_v)}$represents the creep of the boundary conditions. Including$\mathbf{D_u}=8^3=512$(small peristalsis); passing $\mathbf{D_v}=23^3=12167$ (peristaltic center) to $\mathbf{D}=2024$(large peristalsis); Among them:

Discrete type: $\mathbf{D_0^3}=14^3=2744$; belongs to discrete calculation; (see example question **7**)

Entangled type: $\mathbf{D=8\cdot 11\cdot 23}$）=2024 is a convergent calculation; (see example question 8)

Discriminant: $(1-\eta_u^2)^{(+1)}=[8/14]^{(+1)}\le 1$; $(1-\eta_v^2)^{(-1)}=[23/14]^{(-1)}=(14/23)^{(-1)}\ge 1$;

Analysis: The creep calculation is based on the [example 7] entangled one-dimensional cubic equation of (the center of creep).

(4.6.1) $(x\pm{}^3\sqrt{\mathbf{D_{uv}}})^{(3)}=x_{uv}^{(3)}\pm 42x_{uv}^{(2)}+42x_{uv}^{(1)}\pm({}^3\sqrt{2024_{uv}})^{(3)}$,
$=x_{uv}^{(3)}\pm 3\cdot 14x_{uv}^{(2)}+3\cdot 14x_{uv}^{(1)}\pm({}^3\sqrt{2024_{uv}})^{(3)}$
$=(1-\eta_{uv}^2)\cdot[x_{0uv}^{(3)}\pm 3\cdot 14x_{0uv}^{(3)}+3\cdot 196x_{0uv}^{(3)}\pm({}^3\sqrt{2024_{uv}})]^{(3)}$
$=[(1-\eta_{uv}^2)\cdot(x_0\pm 14_{uv})]^{(3)}$
$=[(1-\eta_{uv}^2)\cdot(0,2)\cdot 14_{uv}]^{(3)}$;

(4.6.2) $\{x-\sqrt{\mathbf{D_{uv}}}\}^{(3)}=[(1-\eta_{uv}^2)\cdot\{0\}\cdot 14_{uv}]^{(3)}=0_{uv}$; the rotation center of peristalsis and the conversion point between peristalsis.

(4.6.3) $\{x+\sqrt{\mathbf{D_{uv}}}\}^{(3)}=[(1-\eta_{uv}^2)\cdot\{2\}\cdot 14_{uv}]^{(3)}=8\cdot 2024_{uv}=16192_{uv}$; the value of the large and small peristaltic center

(4.6.4) $\{x\pm\sqrt{\mathbf{D_{uv}}}\}^{(3)}=[(1-\eta^2)\cdot\{2\rightarrow 0\}\cdot 14_{uv}]^{(3)}$
$=(1-\eta_{uv}^2)\cdot(0\rightarrow 8\cdot 2024_{uv})=(0\rightarrow 16192_{uv})$
$=(1-\eta_{uv}^2)\cdot(0\rightarrow 8)\cdot[(512_u)\leftrightarrow(2024_{uv})\leftrightarrow(12167_v)]$
$=(1-\eta_{uv}^2)\cdot[(4096_u)\leftrightarrow(16192_{uv})\leftrightarrow(97336_v)]$; The five-dimensional-six-dimensional vortex space creeps through the central zero point 0uv between $(512_u)$and (12167_v)

Verification: $({}^3\sqrt{2024_{uv}})^3-3\cdot({}^3\sqrt{2024_{uv}})^3+3({}^3\sqrt{2024_{uv}})^3-2024_{uv}=0$;

Special: The numerical value of the size of the creep is also called the boundary range of the convergence type and the diffusion type calculation. That is to say separately

(1)Convergent boundary: $(1-\eta_u^2)=(1-\eta_v^2)^{(+1)}=\{x_u/\mathbf{D}_0\}$; or$=\{x_u^{\mathbf{2}}/\mathbf{D}_0^2\}$; or$=\{x_u^{\mathbf{3}}/\mathbf{D}_0^3\}$;

(2) Diffusion boundary:: $(1-\eta_v^2)=(1-\eta_v^2)^{(-1)}=\{x_v/\mathbf{D}_0\}$; or$=\{x_v^{\mathbf{2}}/\mathbf{D}_0^2\}$; or$=\{x_v^{\mathbf{3}}/\mathbf{D}_0^3\}$;

4.7. Periodic one-dimensional cubic equation

[Example 10] Periodic one-dimensional cubic equation (periodic diffusion or convergence)

Known: Power dimension element: (S=-3); Average value: $D_0=x_0=14$;

Boundary condition: $\mathbf{D_T}=\pm 16192$(representing periodic diffusion (+) or convergence (-)); Power function K(3±T):

Discriminant: $(1-\eta_T^2)^{K(3\pm T)}=[14/({}^3\sqrt{16192})]^{(-3)}=16192/2024=8.00\ge 1$;

Analysis: $D_0^2=x_0^2=14^2=196$; $D_0^3=x_0^3=14^3=2744$; $\mathbf{D}=({}^3\sqrt{16192})^3==T\cdot 2744$; "T= 8" belongs to abnormal diffusion: because of the average value$D_{0\mathbf{T}}^3=14_T^3=2744_T=T\cdot 2744=8\cdot 2744$;

There are multiples of entangled boundary condition 8, which may be a parameter（**G**）, or a periodic parameter （**T**）, or external force, interference, etc. Automatically eliminate "parameters", which belong to the convergent calculus equation.

(4.7.1) $(x\pm{}^3\sqrt{2024_T})^{K(3\pm T)}=x^{K(3)}\pm 42x^{K(2)}+42x^{K(1)}\pm({}^3\sqrt{16192})^{K(3\pm T)}$
$=x^{K(3\pm T)}\pm 3\cdot 14x^{K(2)}+3\cdot 14x^{K(1)}\pm({}^3\sqrt{16192})^{K(3\pm T)}$
$=(1-\eta_T^2)^{K(3\pm T)}[x_0^{K(3)}\pm 3\cdot 14x_0^{K(2)}+3\cdot 196x_0^{K(1)}\pm 16192]^{K(3\pm T)}$
$=(1-\eta_T^2)^{K(3\pm T)}(x_0\pm 14)^{K(3\pm T)}$
$=(1-\eta_T^2)^{K(3\pm T)}\{0,2\}^{K(3\pm T)}14^{K(3\pm T))}$;

(4.7.2) $\{x-\sqrt{\mathbf{D_T}}\}^{K(3\pm T)}=[(1-\eta_T^2)\cdot\{0\}\cdot 14]^{K(3))}=0$;

(4.7.3) $\{x+\sqrt{\mathbf{D_T}}\}^{K(3\pm T)}=[(1-\eta_T^2)\cdot\{2\}\cdot 14]^{K(3)}=\pm 8\cdot 2024_T$
$=\pm\mathbf{T}\cdot 2024=\pm 16192$;

(4.7.4) $\{x\pm\sqrt{\mathbf{D_T}}\}^{K(3\pm T)}=[(1-\eta_T^2)\cdot\{2\leftrightarrow 0\}\cdot 14]^{K(3\pm T)}$
$=(0\leftrightarrow\pm 8\cdot 2024)$
$=(0\leftrightarrow\pm 16192)$; the five-dimensional-six-dimensional vortex space diffuses or converges periodically from the center zero point (0) and (±16192) .

Among them: (Trepresents a periodic value, which can be a power function or a time series to become a general polynomial).

Verification: $({}^3\sqrt{2024_T})^3-3\cdot({}^3\sqrt{2024_T})^3+3({}^3\sqrt{2024_T})^3-2024_T=0$: verify according to S=K(3±T).

In particular, the closed group combination has a strong anti-interference ability, that is to say, if the boundary conditions appear unbalanced "G, T", and accidental or non-accidental interference phenomenon, the equation will be automatically eliminated (or the cause of interference is found), Continue to calculate according to the closed balance equation. It is called robustness in the computer, taking into account the advantages of security, privacy, and openness.

4.8, one-variable cubic first-order calculus equation

4.8.1, one-variable cubic first-order calculus equation (K=+1,0,-1), (N=±0,1,2);

Known boundary conditions: the zero-order calculus equation differentiates into the first order $\{({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=3)+(\mathbf{N=-1})\pm(P=1)\pm(qjik=2))/t}$;

Power function (time series)(S=3),(N=-1),(P=-1). $\{q\}=\{q_{jik}\}$, differential means that the entire equation is reduced by one order:

(4.8.1) $$\{X\pm({}^{2}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(N=\pm0)\pm(P=+1)\pm(m)\pm(qjik+1))/t}$$
$$=\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=\pm0)\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$$
$$\pm\underline{B({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=-1))\pm(P=+1)\pm(m)\pm(qjik=+1))/t}$$
$$+\{({}^{S}\sqrt{\mathbf{D}})=({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(N=-1)\pm(P=+0)\pm(m)\pm(qjik=+1))/t}$$
$$+\underline{({}^{S}\sqrt{\mathbf{D}})\}}^{K(Z\pm(S=2)\pm(N=\pm0)\pm(P=+0)\pm(m)\pm(qjik=+1))/t}$$
$$=\{(1-\eta^{2})[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P=+1)\pm(m)\pm(qjik=0))/t}$$
$$=\{(1-\eta^{2})\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P=+1)\pm(m)\pm(qjik=0))/t};$$

The same reason: Formula (4.8.1) also adapts to discrete calculus equations, and adapts to physical speed and kinetic energy calculations. Zero-order equation equation gap $\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=\pm0)\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$ and $\underline{({}^{S}\sqrt{\mathbf{D}})\}}^{K(Z\pm(S=2)\pm(N=\pm0)\pm(P=+0)\pm(m)\pm(qjik=+1))/t}$ directly correspond to $B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(N=\pm0,1,2))\pm(P=+1)\pm(m)\pm(qjik=+1))/t}$。

Among them: the various combinations of the term order of the calculus equation represent "group combination $\{q=q_{jik}\}$", the elements are represented by {} symbols, and the power function is written as K(S=2)/t=K(Z±(S=2)±(N=1)±(P=1)±(m)±(qjik=1))/t; (m) definite integral element variation range; (q_{jik}) each element is a triplet generator as Unit body.

Where: Zero-order calculus $\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=0)\pm(P)\pm(m)\pm(0))/t}$ and $\underline{({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=0)\pm(P)\pm(m)\pm(0))/t}$ means that the group combination term does not exist temporarily after the first-order differentiation. After the first-order integration, it means that the combined term of the group recovers and becomes the original function (zero-order calculus equation).

4.9, one-variable third-order second-order differential equation

The differential equation represents the reduction of the second order from zero order (N=-2+2=0), or (the first order differential and then the first order reduction) (N=-1-1=-2).

Integral equation means that the second-order differential is raised to the second order (N=-2+2=0), or (the first-order differential is raised to the first order) (N=-1+1=0) becomes a zero-order calculus equation.

Features: (S=3), $\{q\}=\{q_{jik}\}$ less than or equal to three elements: (q_{jik}=1) means that the combination form increases or decreases by one. (N=±2), which means that the zero-order differential equation is reduced to one order (-N=1), and vice versa (integration) (+N=1) is also true.

Discriminant: $(1-\eta^{2})^{K(Z\pm(S=3)\pm(N=2)\pm(P=2)\pm(m)\pm(qjik=3))/t}=\{({}^{S}\sqrt{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(N=2)\pm(P=2)\pm(m)\pm(qjik=2))/t}\leq1$;

Known boundary conditions: zero-order $\mathbf{D}^{K(Z\pm(S=3)\pm(N=0)\pm(P=0)\pm(qjik))/t}$ becomes second-order $\{({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=3)\pm(N=0,1,2)\pm(P=1)\pm(qjik=2))/t}$;

(4.9.1) $$[(1-\eta^{2})(x_0\pm\mathbf{D}_0)\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t};$$

(4.9.2) $$\{X\pm({}^{3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}$$
$$=\underline{A({}^{3}\sqrt{\mathbf{D}}}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)-(qjik=0))/t}\pm\underline{B({}^{S}\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=1))/t}$$
$$+\mathbf{C}({}^{S}\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm\underline{({}^{3}\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)+(qjik=0))/t}$$
$$=【+\mathbf{C}({}^{S}\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm({}^{3}\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)+(qjik=2))/t}】$$
$$=\{x\pm({}^{K3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$$
$$=\{(1-\eta^{2})[x_0\pm\mathbf{D}_0]\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$$
$$=\{(1-\eta^{2})\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t};$$

(4.9.3) $$0\leq(1-\eta^{2})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\leq1;$$

Combine and write the complete formula of second-order calculus (±N=0,1,2,3)

(4.9.4) $$\{X\pm({}^{3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}$$
$$=\underline{A({}^{3}\sqrt{\mathbf{D}}}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(N=0,1,2,3)\pm(m)-(qjik=0))/t}\pm\underline{B({}^{S}\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=1))/t}$$
$$+\mathbf{C}({}^{S}\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm\underline{({}^{3}\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)+(qjik=0))/t}$$
$$=【+\mathbf{C}({}^{S}\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm({}^{3}\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)+(qjik=2))/t}】$$

$=\{x\pm({}^{K3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(\pm(S=3)\pm(N=0,1,2,3))\pm(P=2)\pm(m)\pm(qjik))/t}$;

In the formula:

$[\underline{A({}^3\sqrt{\mathbf{x}})},\ \underline{({}^3\sqrt{\mathbf{D}})}]^{K(\pm(S=3)\pm(N=-2)\pm(P=2)\pm(m)\pm(qjik=0))/t}$; $[\underline{B({}^3\sqrt{\mathbf{x}})},\ \underline{({}^3\sqrt{\mathbf{D}})}]^{K(\pm(S=3)\pm(N=-2)\pm(P=2)\pm(m)\pm(qjik=1))/t}$

means (S=3) unchanged. The zero-order first and binomial sequences do not exist for the time being during differentiation. Resuming existence during integration becomes a zero-order calculus function.

4.10. [Example 11] Creeping type cubic equation of one variable (first-order second-order differential equation)

Creeping type second-order differential one-dimensional cubic equation (see example question 9) (±N=0.1.2)On entangled calculus equations, creep changes between root elements

Known: Power dimension element: (S=-3); Average:(B=S·$\mathbf{D}_{0uv}$=42) 、$D_0=x_0=14$; $\mathbf{D}_{uv}$=(8·11·23=2024

Boundary conditions: $\mathbf{D}_{uv}=(\mathbf{D}_u\leftrightarrow\mathbf{D}\leftrightarrow\mathbf{D}_v)$ represents the creep of the boundary conditions. Including $\mathbf{D}_u$=83=512 (small peristalsis);after D=2024 (the center of peristalsis) to $\mathbf{D}_v$=233=12167 (large peristalsis);

Among them:

(discrete type): $\mathbf{D}=14^3=2744$; Belongs to discrete calculation; (see example question 7)

(Entangled type): $\mathbf{D=(8\cdot 11\cdot 23)}$=2024 is a convergent calculation; (see example question 8)

Discriminant: $(1-\eta_u^2)^{(+1)}=[8/14]^{(+1)}\le 1$; $(1-\eta_v^2)^{(-1)}=[23/14]^{(-1)}=(14/23)^{(-1)}\ge 1$;

Analysis: The creep calculation is based on the [example 9] entangled one-dimensional cubic equation of (the center of creep).

Special: The numerical value of the size of the creep is also called the boundary range of the convergence type and the diffusion type calculation. Respectively:

(1)、 Convergent peristalsis:$(1-\eta_u^2)=(1-\eta_v^2)^{(+1)}=\{x_u/\mathbf{D}_{0uv}\}$:or:$\{x_u^2/\mathbf{D}_{0uv}^2\}$; or:$\{x_u^3/\mathbf{D}_{0uv}^3\}$

(2)、 Diffusion type peristalsis:$(1-\eta_v^2)=(1-\eta_v^2)^{(-1)}=\{x_v/\mathbf{D}_{0uv}\}$: or:$\{x_v^2/\mathbf{D}_{0uv}^2\}$; or:$\{x_v^3/\mathbf{D}_{0uv}^3\}$;

(4.10.1) $\{x\pm\sqrt{\mathbf{D}_{uv}}\}^{K(\pm(S=3)\pm(N=-2)\pm(P=2)\pm(m)\pm(qjik))/t)}$
$=【\{\underline{x^{(3)}}\pm 42x^{(2)}+42x^{(1)}\pm({}^3\sqrt{16192})^{3K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$
$=[\underline{x^{(-3)}}【\pm 3\cdot 14x^{(-2)}+3\cdot({}^3\sqrt{16192})\pm\underline{({}^3\sqrt{16192})\}^{(3)}}]^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$,
$=(1-\eta^2)\cdot[\underline{x_0^{(3)}}\pm 3\cdot 14x_0^{(3)}+3\cdot 14^2x_0^{(3)}\pm\underline{16192}]^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$,
$=[(1-\eta^2)\cdot(x_0\pm 14_{uv})]^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$,
$=[(1-\eta^2)\cdot\{0,2\}\cdot 14_{uv}]^{(K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$;

(4.10.2) $\{x-\sqrt{\mathbf{D}_{uv}}\}^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}=[(1-\eta_{uv}^2)\cdot\{0\}\cdot 14_{uv}]^{(3)}=0_{uv}$;

The rotation center of the creep and the conversion point between the creep calculus equations.

(4.10.3) $\{x+\sqrt{\mathbf{D}_{uv}}\}^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$
$=[(1-\eta_{uv}^2)\cdot\{0,2\}\cdot 14_{uv}]^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$
$=[(0,8)\cdot 2024_{uv}]^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$
$=(0,16192_{uv})^{K(\pm(S=3)\pm(N=0.1.2)\pm(P=2)\pm(m)\pm(qjik))/t)}$;

The size of the peristaltic center value of the peristaltic point.

(4.10.4) $\{x\pm\sqrt{\mathbf{D}_{uv}}\}^{(3)}=[(1-\eta^2)\cdot\{2\to 0\}\cdot 14_{uv}]^{(3)}$
$=(1-\eta_{uv}^2)\cdot(0\to 8\cdot 2024_{uv})=(0\to 16192_{uv})$
$=(1-\eta_{uv}^2)\cdot(0\to 8)\cdot[(512_u)\leftrightarrow(2024_{uv})\leftrightarrow(12167_v)]$
$=(1-\eta_{uv}^2)\cdot[(4096_u)\leftrightarrow(16192_{uv})\leftrightarrow(97336_v)]$;

The five-dimensional-six-dimensional vortex space creeps through the central zero point 0_{uv} between 在 512_u and 12167_v.

Verification: $({}^3\sqrt{2024})^3-3\cdot({}^3\sqrt{2024})^3+3({}^3\sqrt{2024})^3-2024=0$;

4.11 Solving roots of cubic equation in one variable:

The second-order circle logarithm topological factor is directly used, and the convenient method is to solve the zero-order calculus equation. See [Example 8] for the root solution.

(A), When:"◎ (0) ◎◎" type

The one-dimensional cubic equation is $x=({}^3\sqrt{x})={}^3\sqrt{\mathbf{x_1x_2x_3}}$; the balanced formula $x^3=\mathbf{D}=\mathbf{D_1D_2D_3}$, here introduces the circle logarithm processing of the center zero point. Satisfy the circle logarithmic factor:

(4.11.1) $(\eta_H)=\mathbf{\Sigma}_{(q=+1+2)}(+\eta_H)+\mathbf{\Sigma}_{(q=-3)}(-\eta_H)=0$;

Calculation of symmetry factor (B=3·D_0):

(4.11.2) $(1-\eta_H^2)\mathbf{D}_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]\mathbf{D}_0$

$=[(1-\eta_1^2)+(1-\eta_2^2)]-[(1+\eta_3^2)]\mathbf{D}_0$

(4.11.3) $x_1=(1-\eta_{h1}^2)\ \mathbf{D_0}$;

$x_2=(1-\eta_{h2}^2)\ \mathbf{D_0}$;

$x_3=(1+\eta_{h3}^2)\mathbf{D_0}$;

(B) , When: "◎（◎）◎"type,

One element(x_2) is already known, and the application of symmetry can easily solve (x_1),(x_3).
The symmetry of formulas (4.11.1)-(4.11.3) reflects that the span (iteration) of the calculus order under the constant condition of (S=3) has nothing to do with finding the root solution.
In the formula: the second-order calculus equation represents the total number of elements (S=3) unchanged. Temporarily does not exist during differentiation. When integrating, it restores existence and becomes the original function. When {q≥4} becomes a high-order calculus, a set or matrix of (N=(±0,1,2) zero-order, first-order, and second-order calculus with full low-dimensional calculus is still needed. It is called high-dimensional space The curl is in the three-dimensional space of the generator of the triplet. In other words, $\{q\}\in\{q_{jik}\}$ explains people's guess that "there is an integer between the four-dimensional and three-dimensional space is $\{q\}$ or $\{q_{jik}\}$".

4.12, Coordinate system

After finding the root solution, the characteristic modulus $\mathbf{D}_0$ can mark the space in the coordinate system, and $x_1x_2x_3$ are respectively ***i,j,k*** axis

(1), Hilbert space: $[(1-\eta^2)\cdot\mathbf{D}_0]^{K((S)\pm(\mathbf{N=0,1,2})\pm qjik)/t}$

(4.12.1) $[(1-\eta^2)\cdot\mathbf{D}_0]^{K((S)\pm(\mathbf{N=0,1,2})\pm qjik)/t}=\{(1-\eta_{(x)}^2)\boldsymbol{i}+(1-\eta_{(y)}^2)\boldsymbol{j}+(1-\eta_{(z)}^2)\boldsymbol{k}]\cdot\mathbf{D}_0\}^{K((S)\pm(\mathbf{N=0,1,2})\pm qjik)/t}$

Among them: $(1-\eta_{(x)}^2)\boldsymbol{i}=\{x/\mathbf{D}_0\};(1-\eta_{(y)}^2)\boldsymbol{j}=\{y/\mathbf{D}_0\};(1-\eta_{(z)}^2)\boldsymbol{i}=\{z/\mathbf{D}_0\}$;

(2), Rotating space: $[(1-\eta^2)\cdot\mathbf{D}_0]^{K((S)\pm(\mathbf{N=0,1,2})\pm qjik)/t}$

(4.12.2) $[(1-\eta^2)\cdot\mathbf{D}_0]^{K((S)\pm(\mathbf{N=0,1,2})\pm qjik)/t}=\{(1-\eta_{(yz)}^2)\boldsymbol{i}+(1-\eta_{(zx)}^2)\boldsymbol{j}+(1-\eta_{(xy)}^2)\boldsymbol{k}]\cdot\mathbf{D}_0\}^{K((S)\pm(\mathbf{N=0,1,2})\pm qjik)/t}$

Among them:: $(1-\eta_{(yz)}^2)\ \boldsymbol{i}=\{yz/\mathbf{D}_0^2\}$;

$(1-\eta_{(zx)}^2)\ \boldsymbol{j}=\{zx/\mathbf{D}_0^2\}$;

$(1-\eta_{(xy)}^2)\ \boldsymbol{i}=\{xy/\mathbf{D}_0^2\}$;

5, one-variable cubic equation calculus equation

The characteristics of the one-dimensional cubic equation: the unit body is a non-repetitive combination of three elements(S=q=3),(N=±0,1,2); calculus equation (zero-order, first-order, second-order)),$(q=0,1,2,3)\in\{q_{jik}\}$; combination coefficient: 1:3:3:1; the sum of total coefficients $(2)^3=8$;

5.1. [Example 7] Cubic equation in one variable and Fibonacci sequence

The Fibonacci sequence "every term is the sum of the first two terms" is a special case of the "triple" general formula, the center zero-point circle logarithm is between three elements, and the circle logarithmic factor "each factor Equal to the sum of the first two factors",$(1-\eta_{(1+2)}^2)=(1-\eta_{(3)}^2)$.

Known: Power dimension element:(S=3); average value: $D_0=x_0=14$; boundary condition: D=2184;

Analysis: $D_0^2=x_0^2=14^2=196$; $D_0^3=x_0^3=14^3=2744$; $D=(\sqrt[3]{2184})^3$;

Discriminant:$(1-\eta^2)^3=(\sqrt[3]{D}/D_0)=(\sqrt[3]{2184})/14)^3=2184/2744=0.795920\leq1$; it belongs to entangled calculation.

(5.1.1) $(x\pm\sqrt[3]{2184})^3=x^3\pm42x^2+42x\pm(\sqrt[3]{2184})^3$

$=x^3\pm3\cdot14x^2+3\cdot14x\pm2184$

$=(1-\eta^2)^3[x_0^3\pm3\cdot14x_0^2+3\cdot196x_0\pm2744]$

$=(1-\eta^2)^3(x_0\pm14)^3$

$=(1-\eta^2)^3\{0,2\}^3 14^3$;

Three calculation results:

$\{x-\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\}\cdot14]^3=(1-\eta^2)\cdot0$;

$\{x+\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\}\cdot14]^2=(1-\eta^2)\cdot8\cdot2024=16192$;

$\{x\pm\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0，2\}\cdot14]^2=(1-\eta^2)\cdot（0，8）\cdot2024=(0，16192)$;

Solve the root: According to the average value $\mathbf{B}\cdot\mathbf{D}_0=14\cdot3=42$ between the three elements ($x_1x_2x_3$) satisfy

(1) Probability: $(1-\eta_H^2)=(1-\eta_1^2)+(1-\eta_2^2)+(1-\eta_3^2)=1$;

(2) Symmetry: $(1-\eta_H^2)=[(1-\eta_1)+(1-\eta_2)]-[(1+\eta_3)]=0$;

Choice:$(1-\eta^2)^3=(\sqrt[3]{2184})/14)^3=2184/2744=0.795920=33/42$;

Symmetry is not satisfied. To span iteration $(1/2)^2$, select a new logarithmic factor of the circle $(1/2)^2(1-\eta_H^2)B=(1/2)^2(2184/2744)\cdot42=8/42$;Continue to test whether symmetry is satisfied,

(3) Select again: $(1-\eta_H^2)=7/42$: Import($B=3\cdot D_0$)

$(1-\eta_H^2)\mathbf{D}_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]\mathbf{D}_0=0$; ($B=3\cdot D0$)

(4) Symmetry factor verification

(5.1.2) $(1-\eta_H^2)\mathbf{D}_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]\mathbf{D}_0$

$=[(1-\eta_1^2)+(1-\eta_2^2)]-[(1+\eta_3^2)]\mathbf{D}_0$

$=[(1-6/14)+(1-1/14)]-[(1+7/14)]\mathbf{D}_0$

$=[(1-18/42)+(1-3/14)]-[(1+21/14)]\mathbf{B}$

$=(7/14)-(7/14)=(21/42)-(21/42)=0$;

(5) Solve the roots:

(5.1.3) $x_1=(1-\eta_{H1}^2)\mathbf{D_0}=(1-6/14)14= (1-18/42)42=8$;

$x_2=(1-\eta_{H2}^2)\mathbf{D_0}=(1-1/14)14= (1 - 3/42)42=13$;

$x_3=(1-\eta_{H3}^3)\mathbf{D_0}=(1+7/14)14=(1-21/42)42=21$;

Verification (1): $\mathbf{D}=8\cdot13\cdot21=2184$;

Verification (2): $(1-\eta^2)\cdot[14^3-3\cdot14)^3+3\cdot14^3-14^3=0$;

Discuss:

Based on the isomorphism of the circle logarithm $(1-\eta^2)^3=({}^3\sqrt{\mathbf{D}/\mathbf{D}_0})$, adapt to the Fibonacci sequence $(1-\eta^2)^{K(Z\pm(S=3))}=({}^3\sqrt{\mathbf{D}/\mathbf{D}_0})^{K(Z\pm(S=3))}$ infinite sequence. Satisfy the circle logarithm factor:

$$(\eta_H)\mathbf{D}_0=\mathbf{\Sigma}_{(i=+S)}(+\eta_H)\mathbf{D}_0+\mathbf{\Sigma}_{(i=-S)}(-\eta_H)\mathbf{D}_0=0$$

or solve the infinite Pebonacci sequence and application The mystery.

5.2. [Example 8] Discrete cubic equation with one variable

Known: Power dimension element: (S=3); average value: $\mathbf{D}_0=x_0=14$; boundary condition: $\mathbf{D}=\mathbf{D}_0^3=143=2744$;

Analysis: $D_0^2=x_0^2=14^2=196$; $\mathbf{D}_0^3=x_0^3=14^3=2744$; $\mathbf{D}=({}^3\sqrt{2744})^3$;

Discriminant: $(1-\eta^2)^3=({}^3\sqrt{2744})/14)^3=2744/2744=1$;

Discrimination result: (K=±0), it belongs to the discrete calculus equation.

$\eta^2=(2744-2024) /2744=0.26239$;

(5.2.1) $(x\pm{}^3\sqrt{2744})^3=x^3\pm42x^2+42x\pm({}^3\sqrt{2744})^3$

$=x^3\pm3\cdot14x^2+3\cdot14x\pm2744$

$=[x_0^3\pm3\cdot14x_0^2+3\cdot196x_0\pm2744]$

$=(x_0\pm14)^3$

$=\{0,2\}^3 14^3$;

(5.2.2) $\{x-\sqrt{\mathbf{D}}\}^3=\{0\}\cdot14]^3=0$;

(5.2.3) $\{x+\sqrt{\mathbf{D}}\}^3=[\{2\}\cdot14]^3=8\cdot2024=16192$;

(5.2.4) $\{x\pm\sqrt{\mathbf{D}}\}^3=[\{2\leftrightarrow0\}\cdot14]^3=(8\cdot2744\leftrightarrow0)=(21952\leftrightarrow0)$;

Represents the five-dimensional-six-dimensional vortex space from 21952 and Balance and conversion between the center zero point of 0.

5.3. [Example 9] Convergent one-variable cubic equation

Known: Power dimension element: (S=3); average value: $D_0=x_0=14$; boundary condition: D=2024;

Analysis: $D_0^2=x_0^2=14^2=196$; $\mathbf{D}_0^3=x_0^3=14^3=2744$; $\mathbf{D}=({}^3\sqrt{2744})^3$;

Discriminant: $(1-\eta^2)^3=({}^3\sqrt{2744})/14)^3=2744/2744=1$;

it belongs to the convergent calculus equation.

$\eta^2=(2744-2024) /2744=0.26239$;

(5.3.1) $(x\pm{}^3\sqrt{2024})^3=x^3\pm42x^2+42x\pm({}^3\sqrt{2024})^3$

$=x^3\pm3\cdot14x^2+3\cdot14x\pm2024$

$= (1-\eta^2)^3[x_0^3\pm3\cdot14x_0^2+3\cdot196x_0\pm2744]$

$=(1-\eta^2)^3(x_0\pm14)^3$

$=(1-\eta^2)^3\{0,2\}^3 14^3$;

(5.3.2) $\{x-\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\}\cdot14]^3=0$;

(5.3.3) $\{x+\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\}\cdot14]^3=8\cdot2024=16192$;

(5.3.4) $\{x\pm\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\rightarrow0\}\cdot14]^3=(8\cdot2024\rightarrow0)=(16192\rightarrow0)$; five-dimensional-six-dimensional vortex The spin space converges from 16192 to the central zero point.

5.4. [Example 10] Diffusion type one-dimensional cubic equation

Known: Power dimension element: (S=-3); average value: D0=x0=14; boundary condition: D=16192;

Analysis: D02=x02=142=196; D03=x03=143=2744; D=(3√16192)3;

Discriminant: (1-η2)(-3)=[14/(3√16192)](-3)=16192/2024=8.00 ≥1; it belongs to the diffusion calculus equation.

(5.4.1) $(x\pm{}^3\sqrt{2024})^{(-3)}=x^{(-3)}\pm42x^{(-2)}+42x^{(-1)}\pm({}^3\sqrt{16192})^{(-3)}$

$=x^{(-3)}\pm 3\cdot 14x^{(-2)}+3\cdot 14x^{(-1)}\pm(^3\sqrt{16192})^{(-3)}$
$=(1-\eta^2)^{(-3)}[x_0^{(-3)}\pm 3\cdot 14x_0^{(-3)}+3\cdot 196x_0^{(-3)}\pm 16192]^{(-3)}$
$=(1-\eta^2)^{(-3)}(x_0\pm 14)^{(-3)}$
$=(1-\eta^2)^{(-3)}\{0,2\}^{(-3)}14^{(-3)}$;

(5.4.2) $\{x-\sqrt{\mathbf{D}}\}^{(-3)}=[(1-\eta^2)\cdot\{0\}\cdot 14]^{(-3)}=0$;

(5.4.3) $\{x+\sqrt{\mathbf{D}}\}^{(-3)}=[(1-\eta^2)\cdot\{2\}\cdot 14]^{(-3)}=8\cdot 2024=16192$;

(5.4.4) $\{x\pm\sqrt{\mathbf{D}}\}^{(-3)}=[(1-\eta^2)\cdot\{2\rightarrow 0\}\cdot 14]^{(-3)}=(0\rightarrow 8\cdot 2024)=(0\rightarrow 16192)$;

The five-dimensional-six-dimensional vortex space diffuses from the center zero to 16192.

Verification: $(^3\sqrt{2024})^3-3\cdot(^3\sqrt{2024})^3+3(^3\sqrt{2024})^3-2024=0$; verify according to（S=3）.

5.5, one-variable cubic first-order calculus equation

Discriminant: $(1-\eta^2)^{K(Z\pm(S=3)\pm(N=\pm 2)/t}=\{(^S\sqrt{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(N=\pm 2)/t}\leq 1$; belongs to entangled calculation

Known boundary conditions: Zero-order $\mathbf{D}^{K(Z\pm(S=3)\pm(N=0)\pm(P=0)\pm(qjik-0))/t}$ is changed to first-order $\{(^S\sqrt{\mathbf{D}})\}^{K(Z\pm(S=3)\pm(N=1)\pm(P=1)\pm(qjik-1))/t}$;

One-variable cubic first-order calculus equation (N=±1); (P=±1);(q_{jik}=±0,1,2,3) The number of terms and the combination form increase or decrease by one;

(5.5.1) $\{X\pm(^3\sqrt{\mathbf{D}})\}^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=1))/t}$
$=\underline{A(^3\sqrt{x})}^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=0))/t}\pm B(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=1))/t}$
$+C(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=1))/t}\pm\underline{(^3\sqrt{\mathbf{D}})}^{K(Z\pm(S=3)\pm(N=1)\pm(P=1)\pm(m)\pm(qjik=0))/t}$
$=$【$\pm B(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=1))/t}+C(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=2))/t}$
$\pm(^3\sqrt{\mathbf{D}})^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=3))/t}$】
$=\{x\pm(^3\sqrt{\mathbf{D}})\}^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik))/t}$;

(5.5.2) $0\leq(1-\eta^2)^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=1))/t}\leq 1$;

Solving the root: you can directly use the first-order logarithmic probability factor of the circle, or the zero-order calculus equation to solve, see [Example 6].

Among them: one-variable cubic first-order differential equation $[\underline{A(^S\sqrt{\mathbf{x}})},\ \underline{(^3\sqrt{\mathbf{D}})}]^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=0))/t}$ means (S=3) unchanged. Because the differential order changes, the differential does not exist temporarily. (P=1), (q_{jik}=1) item number and combination form minus one. When integrating, the existence is restored to become a zero-order differential equation.

5.6, one-variable cubic second-order calculus equation

The differential equation represents the reduction of the second order from zero order(N=-2+2=0), or (the first order differential and then the first order reduction) (N=-1-1=-2).

Integral equation means that the second-order differential is raised to the second order (N=-2+2=0), or (the first-order differential is raised to the first order) (N=-1+1=0) becomes a zero-order calculus equation.

Features: (S=3), {q}={q_{jik}} less than or equal to three elements: (q_{jik}=1) means that the combination form increases or decreases by one. (N=±2), which means that the zero-order differential equation is reduced to one order (-N=1), and vice versa (integration) (+N=1) is also true.

Discriminant: $(1-\eta^2)^{K(Z\pm(S=3)\pm(N=2)\pm(P=2)\pm(m)\pm(qjik=3))/t}=\{(^S\sqrt{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(N=2)\pm(P=2)\pm(m)\pm(qjik=2))/t}\leq 1$;

Known boundary conditions: zero-order $\mathbf{D}^{K(Z\pm(S=3)\pm(N=0)\pm(P=0)\pm(qjik))/t}$ becomes second-order $\{(^S\sqrt{\mathbf{D}})\}^{K(Z\pm(S=3)\pm(N=1)\pm(P=1)\pm(qjik=2))/t}$;

(5.6.1) $[(1-\eta^2)(x_0\pm\mathbf{D}_0)\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}$;

(5.6.2) $\{X\pm(^3\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}$
$=\underline{A(^3\sqrt{\mathbf{D}}}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)-(qjik=0))/t}\pm\underline{B(^S\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=1))/t}$
$+\mathbf{C}(^S\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm\underline{(^3\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)+(qjik=0))/t}$
$=$【$+\mathbf{C}(^S\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm(^3\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)+(qjik=2))/t}$】
$=\{x\pm(^{K3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$;

(5.6.3) $0\leq(1-\eta^2)^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\leq 1$;

Combine and write the complete formula of second-order calculus (±N=0,1,2,3)

(5.6.4) $\{X\pm(^3\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}$
$=\underline{A(^3\sqrt{\mathbf{D}}}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(N=0,1,2,3)\pm(m)-(qjik=0))/t}\pm\underline{B(^S\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=1))/t}$

$+C({}^{S}\sqrt{D})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm({}^{3}\sqrt{D})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)+(qjik=0))/t}$
$=【+C({}^{S}\sqrt{D})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm({}^{3}\sqrt{D})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)+(qjik=2))/t}】$
$=\{x\pm({}^{K3}\sqrt{D})\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)[x_0\pm D_0]\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{D_0\}^{K(\pm(S=3)\pm(N=0,1,2,3))\pm(P=2)\pm(m)\pm(qjik))/t}$;

In the formula:[[$A({}^{3}\sqrt{x})$, $({}^{3}\sqrt{D})]^{K(\pm(S=3)\pm(N=-2)\pm(P=2)\pm(m)\pm(qjik=0))/t}$; $[B({}^{3}\sqrt{x})$, $({}^{3}\sqrt{D})]^{K(\pm(S=3)\pm(N=-2)\pm(P=2)\pm(m)\pm(qjik=1))/t}$ means (S=3) unchanged. The zero-order first and binomial sequences do not exist for the time being during differentiation. Resuming existence during integration becomes a zero-order calculus function.

Solve the root: directly use the second-order circle logarithmic topological factor, the convenient method is to solve the zero-order calculus equation, see [Example 6].

(A), when:"◎（0）◎◎" type

The one-dimensional cubic equation is $x=({}^{3}\sqrt{x})={}^{3}\sqrt{x_1x_2x_3}$; the balanced formula $x^3=D=D_1D_2D_3$, here introduces the circle logarithm of the center zero. Satisfy the logarithmic factor of the circle:

(5.5.5) $(\eta_H)=\Sigma_{(q=+1+2)}(+\eta_H)+\Sigma_{(q=-3)}(-\eta_H)=0$;

Calculation of symmetry factor: (B=3·D0)

(5.5.6) $(1-\eta_H^2)D_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]D_0$
$=[(1-\eta_1^2)+(1-\eta_2^2)]-[(1+\eta_3^2)]D_0$

(5.5.7) $x_1=(1-\eta_{h1}^2)\,D_0$;
$x_2=(1-\eta_{h2}^2)\,D_0$;
$x_3=(1+\eta_{h3}^2)D_0$;

(B) When: "◎（◎）◎"type,

One element (x_2) is already known, and the application of symmetry can easily solve (x_1), (x_3).

The symmetry of the formulas (5.5.5)-(5.5.7) reflects that the span (iteration) of the calculus order under the constant condition of (S=3) has nothing to do with finding the root solution.

Where: the first-order calculus equation A(S√D)K(Z±(S=3)±(N=1)±(P-1)±(m)±(qjik))/t represents the total number of elements (S=3) unchanged. Temporarily does not exist during differentiation. When integrating, it restores existence and becomes the original function.

Here, the traditional calculus and logical algebra symbols are uniformly converted into shared power functions (time series); variable interval (m=0) means indefinite integral; (m=ab) means definite integral or ring or topological circle Area calculation.

Power function: $A({}^{S}\sqrt{D})^{K(Z\pm(S=3)\pm(N=1)\pm(P-1)\pm(m)\pm(qjik))/t}$ (S=3) is 3 variables (dimensional power) "group combination" element $\{X\}=\{q\}=(x_1x_2x_3)\in\{q_{jik}\}=(x_jx_ix_k)$ (generator of the triplet), (N=(±0,1,2) represents a set or matrix of zero-order, first-order, and second-order calculus, which is related to physics, mechanics, and other similar disciplines (Motion equations of static state, velocity (momentum), acceleration (kinetic energy), rotation, precession, vortex, etc. $(1-\eta^2)$: circle logarithm; {x0}unknown variable function (characteristic mode); $\{D_0\}$known variable The average value of the function (characteristic mode), the order change unit volume $dx=\{{}^{3}\sqrt{x_1x_2x_3}\}$; the boundary condition (expected function) of the calculus equation is known $\{{}^{3}\sqrt{D}\}=\{{}^{3}\sqrt{D_1D_2D_3}\}$.

When {q≥4} becomes a high-order calculus, a set or matrix of (N=(±0,1,2) zero-order, first-order, and second-order calculus with full low-dimensional calculus is still needed. It is called high-dimensional space The curl is in the three-dimensional space of the generator of the triplet. In other words, $\{q\}\in\{q_{jik}\}$ explains people's guess that "there is an integer between the four-dimensional and three-dimensional space is {q} or $\{q_{jik}\}$".

6. One-variable four-order calculus equation

6.1. One-variable fourth-order zero-order calculus equation: (S=4);(±N=0,1,2);(±q=0,1,2,3,4);

Perform (zero-order, first-order, second-order, third-order) calculus equations.

Features:$(1-\eta^2)^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}=\{({}^{S}\sqrt{D})/D_0\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}$, derivative delete, integral increase $\{({}^{S}\sqrt{D})/D_0\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}$;

Calculus zero-order calculus equation corresponds to the "crossover" sub-terms (the first and last terms of the first-order calculus equation (±p=1)); (the second-order calculus equation (±p=2) first, second Term and the last one and two terms); the calculus boundary conditions are known variables

$({}^{S}\sqrt{D})^0$; $({}^{4}\sqrt{D})^1$; $({}^{4}\sqrt{D})^2$; $({}^{4}\sqrt{D})^3$

(6.1.1) $\{x\pm({}^{4}\sqrt{D})\}^4=x^4\pm bx^3+cx^2\pm dx+D=[\{0,2\}\cdot({}^{4}\sqrt{D})]^4$;

The calculus power function is written as:

$X^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}=\{({}^{4}\sqrt{x_1x_2x_3x_4})\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}$;

6.2. [Example 11] One-variable fourth-order zero-order calculus equation

Known: power dimension element (S=4); average value$\mathbf{D}_0$=11; boundary condition: $\mathbf{D}$=4560;

Analysis: $D_0=x_0=(1/4)(x_1+x_2+x_3+x_4)=11$; $D_0^2=x_0^2=11^2=121$; $D_0^3=x_0^3=11^3=1331$;

$D_0^4=x_0^4=11^4=14641$;

$x=(^4\sqrt{4560})$; $x^2=(^4\sqrt{4560})^2$; $x^3=(^4\sqrt{4560})^3$; $x^4=4560$;

Discriminant: $(1-\eta^2)=(^4\sqrt{\mathbf{D}})/\mathbf{D}_0=(^4\sqrt{4560})/11)^4=4560/14641=0.311454\leq1$; it belongs to entangled calculation;

Group combination coefficient: (1:4:6:4:1); total combination form: $\{2\}^4=16$;

(A), One-variable fourth-order zero-order calculus equation

(6.2.1) $\{x\pm(^4\sqrt{4560})\}^4=x^4\pm bx^3+cx^2\pm dx+D$

$=x^4\pm44x^3+726x^2\pm5324x+4560$

$=x^3\pm4\cdot11x^3+6\cdot11^2\cdot x^2\pm4\cdot11^3\cdot x+4560$

$=(1-\eta^2)^4[x_0^4\pm4\cdot11\cdot x_0^3\pm6\cdot11^2\cdot x_0^2+4\cdot11^3x_0\pm14641]$

$=(1-\eta^2)^4(x_0\pm11)^4$

$=[(1-\eta^2)\cdot\{0,2\}\cdot11]^4$;

(B)、Two calculation results:：

(6.2.2) $\{x-(^4\sqrt{4560})\}^4=[(1-\eta^2)\cdot\{0\}\cdot11]^4$

$=[(1-\eta^2)\cdot0\cdot11]^4$;

(6.2.3) $\{x+(^4\sqrt{4560})\}^4=[(1-\eta^2)\cdot\{2\}\cdot11]^4$

$=(1-\eta^2)\cdot16\cdot11^4\cdot14641=234256$;

(C), Solve the root:

(A) ,According to the average value B=11·4=44 among the four elements ($x_1x_2\underline{(0)}x_3x_4$), ($x_1x_2(0)x_3x_4$) Satisfy the symmetry of the central zero point "0".

(1) Probability: $(1-\eta_H^2)=(1-\eta_1^2)+(1-\eta_2^2)+(1-\eta_3^2)+(1-\eta_4^2)=1$;

(2) Symmetry:： $(1-\eta_H^2)=\Sigma(i=-s)(1-\eta_{(1+2)}^2)+\Sigma(i=+s)(1-\eta_{(3+4)}^2)$

$=[(1-\eta_1^2)+(1-\eta_1^2)]-[(1-\eta_1^2)+(1-\eta_1^2)]\cdot11$

$=[(1-9/11)+(1-3/11]-[(1+4/11)+(1+8/11)]/44$

$=[(11-9)+(11-3)]-[(11+4)+(11+8)]/44=0$;

(3) Solve the root:：

(6.2.4) $x_1=(1-\eta_1^2)\mathbf{D_0}=(1-9/11)11=2$;

$x_2=(1-\eta_2^2)\mathbf{D_0}=(1-3/11)11=8$;

$X_3=(1-\eta_3^3)\mathbf{D_0}=(1+4/11)11=15$;

$X_4=(1-\eta_4^3)\mathbf{D_0}=(1+8/11)11=19$;

(B), According to the average value B is between four elements ($x_1x_2x_3\underline{(0)}x_4$), Satisfy the symmetry of the central zero point "0".

(6.2.5) $(1-\eta_H^2)=\Sigma(i=-s)(1-\eta_{(1+2)}^2)+\Sigma(i=+s)(1-\eta_{(3+4)}^2)$

$=[(1-\eta_1^2)+(1-\eta_1^2)+(1-\eta_1^2]+[(1-\eta_1^2)]=0$;

Verification (1): $2\cdot8\cdot15\cdot19=4560$;

Verification (2):$(^4\sqrt{4560})^4-4\cdot(^4\sqrt{4560})^4+6\cdot(^4\sqrt{4560})^4-4(^4\sqrt{4560})^4+(^4\sqrt{4560})^4=0$;

6.3. One-variable four-order first-order calculus equation (S=4)±(N=0,1):

Analysis: Discriminant:$(1-\eta^2)^3=(^3\sqrt{2024})/14)^3=2024/2744=0.73761\leq1$;

$\eta^2=(2744-2024)/2744=0.26239$;

(6.3.1) $\{X\pm(^4\sqrt{\mathbf{D}})\}^{K(Z\pm(S=4)\pm(N=0,12)\pm(P)\pm(M)\pm(qjik))/t}$

$=a\underline{(^S\sqrt{\mathbf{x}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=0))/t}\pm b(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=1))/t}$

$+c(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=2))/t}$

$\pm d(^S\sqrt{\mathbf{x}})=(^4\sqrt{4560})]^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=3))/t}$

$+\underline{(^4\sqrt{\mathbf{D}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=+4))/t}$

$=【\pm b(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik=1))/t}$

$+c(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik=2))/t}\pm(^4\sqrt{4560})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=3))/t}】$

$=\{x\pm(^{KS}\sqrt{4560})\}^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik))/t}$

$=\{(1-\eta^2)\cdot[x_0\pm11]\}^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik))/t}$

$=\{(1-\eta^2)\cdot\{(0,2)\cdot\{11\}\}^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik))/t}$;

(6.3.2)$0\leq(1-\eta^2)^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(q))/t}\leq1$;

6.4, The second-order calculus equation of the one-variable quartic equation(S=4)±(N=0,1,2):

(6.4.1) $\{X\pm(^4\sqrt{\mathbf{D}})\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik))/t}$

$= \underline{A(^{S}\sqrt{\mathbf{x}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=0))/t} \pm \underline{B(^{S}\sqrt{\mathbf{x}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=-1))/t}$
$+c(^{S}\sqrt{\mathbf{x}})=(^{4}\sqrt{4560})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=-2))/t} \pm \underline{d(^{S}\sqrt{\mathbf{x}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=-3))/t}$
$+\underline{(^{4}\sqrt{\mathbf{D}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=+4))/t}$
$=+$【$c(^{S}\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=-2))/t}$
$\pm(^{4}\sqrt{4560})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=+2))/t}$】
$=\{x\pm(^{4}\sqrt{4560})\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik))/t}$
$=\{(1-\eta^{2})\cdot(x_{0}\pm 11)\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik))/t}$
$=\{(1-\eta^{2})\cdot\{(0,2)\cdot\{11\}\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik))/t}$;

(6.4.2) $0\le(1-\eta^{2})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik))/t}\le 1$;

(6.4.3) $\{x-(^{KS}\sqrt{4560})\}^{4}=\{(1-\eta^{2})\cdot(0)\cdot(11)\}^{4}$;

(6.4.4) $\{x+(^{KS}\sqrt{4560})\}^{4}=\{(1-\eta^{2})\cdot(2)\cdot(11)\}^{4}$;

Definition 6.4.1 Calculus order value change rule: Iteration of the combined form of "eigenmode-group combined average".

First-order calculus equation $\underline{[A(^{4}\sqrt{x}),A(^{4}\sqrt{D})]}^{K(Z\pm(S=4)\pm(N=1)\pm(P=1)\pm(m)\pm(q=0))/t}$;

Second order calculus equation $\underline{[A(^{4}\sqrt{x}),(^{4}\sqrt{D})]}^{K(Z\pm(S=4)\pm(N=1)\pm(P=1)\pm(m)\pm(q=0,4))/t}$ and $\underline{[B(^{S}\sqrt{\mathbf{x}}),(^{4}\sqrt{D})]}^{K(Z\pm(S=4)\pm(N=2)\pm(P=2)\pm(M)\pm(q=1,3))/t}$;

Find the root element: the normal condition is the same as the above-mentioned "one-variable quintic equation". Example: the one-variable quaternary equation is $x_{(S=4)}=(^{K4}\sqrt{x})=(^{K4}\sqrt{x_{1}x_{2}x_{3}x_{4}})$; adopt $x^{4}=\mathbf{D}=\sqrt{\mathbf{D}_{1}\mathbf{D}_{2}\mathbf{D}_{3}\mathbf{D}_{4}}$, and introduce the "◎（**0**）◎◎◎"、"◎◎（**0**）◎◎"、"◎（◎）◎◎" round logarithm processing;

6.5. Discussion

The second-order calculus equation (S=4)±(N=0,1,2) of the one-variable quaternary equation can also be mathematically proved the "four-color theorem:" the four-color theorem requires proof that four colors are used in the infinite block, which can be satisfied The colors of adjacent borders are not allowed to be repeated", which is proved by computer. However, mathematicians require mathematical proofs, that is, proofs can be calculated arithmetic. Here, the four-color theorem becomes a quartic equation of one variable, and the logarithm of the circle can be used in {0 Arithmetic solution within the range of 1}. Wrote the title of the article "Proving the Four Color Theorem Based on the Logarithm of a Circle". (Published in the American Journal of Mathematics and Statistical Science (JMSS) 2018.9)

7. One-variable five-order calculus equation

Based on Abel's theorem, it is concluded that "the fifth degree equation cannot have a radical solution". Here, we first introduce the analysis of the fifth order calculus equation based on the circle logarithm algorithm.

Calculation highlights: just know

(1) The number of elements (S),

(2) Corresponding boundary conditions (**D**),

(3) The average value ($\mathbf{D}_{0}$) (called the characteristic mode, or the second coefficient (B) of the zero-order or first-order calculus equation, or the third coefficient (C) of the second-order calculus equation, or other polynomial coefficients (P),

According to the above three known conditions, it is possible to establish any high-order and low-order calculus equations (polynomials) to find root solutions.

In the process of calculus, the total elements (S) and boundary conditions (**D**) remain unchanged. The order of calculus (N=±0,1,2) represents (zero-order, first-order, and second-order) respectively, which is expressed as "group "Combination" (item order) the span (iterative) change of the combined elements.

First, take the zero-order calculus of the fifth-order calculus equation of one variable as an example. When the total element (S=5) is unchanged, the invariant characteristic mode (D0) is used to introduce the logarithm of the center zero point circle, and the two asymmetric functions are converted into two relative symmetry functions, in {0 to 1} Probability-topological analysis calculations are carried out in between.

7.1. [Example 1]: Discrete neutral calculus equation $(1-\eta^{2})=1$,

Known: the number of power dimension elements S=5; average value $\mathbf{D}_{0}=12$; boundary condition D={12}5=248832;

Power function: K(5)/t=K(Z±(S=5)±(N=0,1,2)±(P)±(q=5))/t; (K=±0, means neutral);

Discriminant: $(1-\eta^{2})=[^{5}\sqrt{\mathbf{D}/\mathbf{D}_{0}}]5=248832/248832=1$;

Discriminant result: (K=±0), it belongs to neutral big data discrete statistical calculation.

Combination coefficient: 1:5:10:10:5:1, sum of coefficients: $\{2\}^{5}=32$;

Solving: the calculation results and roots of the quintic equation in one variable

(A), the fifth degree equation of one yuan

Features: (S=5), (K=±0), (N=0): .$(1-\eta^2)=1$;

(7.1.1) $\{x\pm\sqrt{\mathbf{D}}\}^5=Ax^5+Bx^4+Cx^3+Dx^2+Ex^1+\mathbf{D}$

$=x^5\pm60x^4+1440x^3\pm17280x^2+103680x^1\pm248832$

$=(1-\eta^2)[x^5\pm5\cdot12\cdot x^4+10\cdot12^2\cdot x^3\pm10\cdot12^3\cdot x^2+5\cdot12^4\cdot x^1\pm12^5]$

$=[(1-\eta^2)\cdot\{x_0\pm12\}]^5$

$=[(1-\eta^2)\cdot\{0,2\}\cdot\{12\}]^5$;

(B). The equation has three calculation results:

(1) , Represents balance, rotation, conversion, and vector subtraction;

(7.1.2) $\{x-\sqrt{\mathbf{D}}\}^5=x^5-60x^4+1440x^3-17280x^2+103680x^1-248832$

$=[\{0\}\cdot\{12\}]^5=0$;

(2)、Represents balance, precession, radiation, and vector addition;

(7.1.3) $\{x+\sqrt{\mathbf{D}}\}^5=x^5+60x^4+1440x^3+17280x^2+103680x^1+248832$

$=[\{2\}\cdot\{12\}]^5$

$=32\cdot12^5=7962624$;

(3)、 Represents the radiation and movement of neutral light quantum five-dimensional-six-dimensional periodic spiral space;

(7.1.4) $\{x\pm\sqrt{\mathbf{D}}\}^5=x^5\pm60x^4+1440x^3\pm17280x^2+103680x^1\pm248832$

$=[(0$ 与 $2)\cdot\{12\}]^5$

$=\{0\leftrightarrow7962624\}$;

In particular, $(1-\eta^2)^{\pm0}=(1-\eta^2)^{-1}\cdot(1-\eta^2)^{+1}=(1-\eta^2)^{-1}+(1-\eta^2)^{+1}$ becomes (K=+1) positive The combination of power (convergence) and (K=-1) negative power (expansion) functions becomes a neutral function (K=±1); it has balance and zero-point conversion functions.

7.2.[Example 2]: Convergent entangled calculus equation (1-η2)≤1;

Known: the number of power dimension elements (S=5); average value D0=12; boundary condition **D**=79002;

Power function: $K(5)/t=K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(q=q_{jik}))/t$；(K=+1)；

Discriminant:：$(1-\eta^2)=D/D_0^5=7962624/248832=32\geq1$;

Discrimination result: (K=+1), which belongs to the convergent entangled calculation.

Symmetry: $|\mathbf{\Sigma}_{(S=(1+2))}(1-\eta^2)^{+1}|=|\mathbf{\Sigma}_{(S=(3+4+5))}(1-\eta^2)^{-1}|$

Or： $|\mathbf{\Sigma}_{(S=(1+2))}(+\eta)|=|\mathbf{\Sigma}_{(S=(3+4+5))}(-\eta)|$;

Combination coefficient: 1:5:10:10:5:1, sum of coefficients: $\{2\}^5=32$;

Solving: the calculation results and roots of the convergent entangled one-variable quintic equation

(A), one-variable fifth-order equation:$(1-\eta^2)\leq1$;

(7.2.1) $\{x\pm\sqrt{\mathbf{D}}\}^5=Ax^5+Bx^4+Cx^3+Dx^2+Ex^1+\mathbf{D}$

$=x^5\pm60x^4+1440x^3\pm17280x^2+103680x^1\pm79002$

$=(1-\eta^2)\cdot[x^5\pm5\cdot12\cdot x^4+10\cdot12^2\cdot x^3\pm10\cdot12^3\cdot x^2+5\cdot12^4\cdot x^1\pm12^5]$

$=[(1-\eta^2)\cdot\{x_0\pm12\}]^5$

$=[(1-\eta^2)\cdot\{0,2\}\cdot\{12\}]^5$;

(B). The equation has three calculation results:

(1), Represents balance, rotation, conversion, and vector subtraction.

(7.2.2) $\{x-\sqrt{\mathbf{D}}\}^5=x^5-60x^4+1440x^3-17280x^2+103680x^1-79002$

$=[(1-\eta^2)\cdot\{0\}\cdot\{12\}]^5=0$;

(2), Represents balance, precession, radiation, and vector addition.

(7.2.3) $\{x+\sqrt{\mathbf{D}}\}^5=x^5+60x^4+1440x^3+17280x^2+103680x^1+79002$

$=[(1-\eta^2)\cdot\{2\}\cdot\{12\}]^5$;

$=(1-\eta^2)\cdot32\cdot12^5=(1-\eta^2)\cdot7962624$;

(3), Represents the convergent expansion of the periodicity of the five-dimensional-six -dimensional vortex space.

(7.2.4) $\{x\pm\sqrt{\mathbf{D}}\}^5=x^5\pm60x^4+1440x^3\pm17280x^2+103680x^1\pm79002$

$=[(1-\eta^2)\cdot\{2\rightarrow0\}\cdot\{x_0\pm12\}]^5$

$=(1-\eta^2)\cdot[\{32\cdot12^5\}\rightarrow0]$

$=(1-\eta^2)\cdot[\{7962624\rightarrow0]$;

7.3. [Example 3]: Diffusion entangled calculus equation$(1-\eta^2)$**≥1;**

Known: the number of power dimension elements (S=5); average value $\mathbf{D}_0=12$; boundary condition **D**=7962624;

Power function: $K(5)/t=K(Z\pm(S=-5)\pm(N=0,1,2)\pm(P)\pm(q=q_{jik}))/t$；

Discriminant: $(1-\eta^2)=[\mathbf{D}/\mathbf{D}_0]^{(5)}=(7962624/248832)=32\geq1$;

Or：$(1-\eta^2)^{(-5)}=[\mathbf{D}/\mathbf{D}_0]^{(-5)}=(7962624/248832)^{(-1)}=32^{(-1)}\leq1$;

Discrimination result: (K=-1), it belongs to the diffusive entanglement calculation.

Symmetry: $|\boldsymbol{\Sigma}_{(S=(1+2))}(1-\eta^2)^{+1}|=|\boldsymbol{\Sigma}_{(S=(3+4+5))}(1-\eta^2)^{-1}|$

Or： $|\boldsymbol{\Sigma}_{(S=(1+2))}(+\eta)|=|\boldsymbol{\Sigma}_{(S=(3+4+5))}(-\eta)|$;

Combination coefficient: 1:5:10:10:5:1, sum of coefficients: $\{2\}^5=32$;

Solution: The calculation result of the diffusive entangled one-variable quintic equation.

(A), one-variable quintic equation: $(1-\eta^2)\geq1$;Or$(1-\eta^2)^{(-1)}\leq1$;

(7.3.1) $\{x\pm\sqrt{\mathbf{D}}\}^{(-5)}=Ax^{(-5)}+Bx^{(-4)}+Cx^{(-3)}+Dx^{(-2)}+Ex^{(-1)}+\mathbf{D}$

$=x^5\pm60x^4+1440x^3\pm17280x^2+103680x^1\pm7962624$

$=(1-\eta^2)^{(-5)}\cdot[x^{(-5)}\pm5\cdot12\cdot x^{(-4)}+10\cdot12^2\cdot x^{(-3)}\pm10\cdot12^3\cdot x^{(-2)}+5\cdot12^4\cdot x^{(-1)}\pm12^{(-5)}]^{(-1)}$

$=[(1-\eta^2)\cdot\{x_0\pm12\}]^{(-5)}$

$=[(1-\eta^2)\cdot\{0,2\}\cdot\{12\}]^{(-5)}$;

(B). The equation has three calculation results:

(1), (indicating balance, rotation, conversion, vector subtraction)

(7.3.2) $\{x-\sqrt{\mathbf{D}}\}^{(-5)}=x^{(-5)}-60^{(-1)}x^{(-4)}+1440^{(-1)}x^{(-3)}-17280^{(-1)}x^{(-2)}+103680^{(-1)}x^{(-1)}-7962624$

$=[(1-\eta^2)\cdot\{0\}\cdot\{12\}]^{(-5)}=0$;

(2), (indicating balance, precession, radiation, vector addition)

(7.3.3) $\{x+\sqrt{\mathbf{D}}\}^{(-5)}=x^{(-5)}+60^{(-1)}x^{(-4)}+1440^{(-1)}x^{(-3)}+17280^{(-1)}x^{(-2)}+103680^{(-1)}x^{(-1)}+7962624$

$=[(1-\eta^2)\cdot\{2\}\cdot\{12\}]^{(-5)}$;

$=[(1-\eta^2)\cdot32\cdot12]^{(-5)}=(1-\eta^2)^{(-5)}\cdot7962624$;

(3), (representing the periodic diffusion and expansion of the five-dimensional-six-dimensional vortex space)

(7.3.4) $\{x\pm\sqrt{\mathbf{D}}\}^5=x^5\pm60x^4+1440x^3\pm17280x^2+103680x^1\pm79002$

$=[(1-\eta^2)\cdot\{0\rightarrow2\}\cdot\{x_0\pm12\}]^5$

$=(1-\eta^2)\cdot[0\rightarrow\{32\cdot12^5\}]$

$=(1-\eta^2)\cdot[0\rightarrow\{7962624\}]$;

7.4, [Example 1]-[Example 3] Solve the root element

The above three examples have the same number of elements and average value (characteristic mode): $B=(S=5)D_0=60$;

Center zero point:$(1-\eta^2)B=(79002/248832)\cdot60=0.317491=19/60$；

Through the central zero point, $\eta^2=19/60$ is tested (not satisfied), and $\eta^2=17/60$ is tested again (balance and symmetry can be satisfied). Symmetry of the circle logarithmic factor: the center zero is between $x_3$and x_4.

(7.4.1) $(1-\eta^2)B=[(1-\eta_1^2)+(1-\eta_2^2)+(1-\eta_3^2)]-[(1-\eta_4^2)+(1-\eta_5^2)]60$

$=[(1-9/12)+(1-5/12)+(1-3/12)]-[(1+7/12)+(1+10/12)]60$

$=(17/60)-(17/60)=0$; (satisfying the symmetrical balance condition).

Root element:

(7.4.2) $x_1=(1-\eta_1^2)\mathbf{D_0}=(1-9/12)12=3$;

$x_2=(1-\eta_2^2)\mathbf{D_0}=(1-5/12)12=7$;

$x_3=(1-\eta_3^2)\mathbf{D_0}=(1-3/12)12=9$;

$x_4=(1+\eta_4^2)\mathbf{D_0}=(1+7/12)12=19$;

$x_5=(1+\eta_5^2)\mathbf{D_0}=(1+10/12)12=22$;

Verification (1):$\mathbf{D}=(3\cdot7\cdot9\cdot7\cdot19)=79002$(满足);

$\mathbf{D}_0=(1/5)(3+7+9+7+19)=12$;(满足)

Verification (2): $\{x-\sqrt{\mathbf{D}}\}^5=[(1-\eta^2)\{0\}\{x_0\pm12\}]^5$

$=(1-\eta^2)[12^5-5\cdot12^5+10\cdot12^5-10\cdot12^5+5\cdot12^5-79002]$

$=0$；(satisfy the balance and symmetry formula)

Discussion: The central zero point is relatively simple for the relative symmetry of two uncertain elements: $x_A=(1-\eta^2)\mathbf{D_0}$; $x_B=(1+\eta^2)\mathbf{D_0}$;

Here "η" corresponds to "$\eta_{AB}=\eta_{BA}$" or "$\eta_{AB}^2=\eta_{BA}^2$", reflecting that two (multiple) uncertain elements have equivalent change rules and can be converted between each other. The circle logarithm factor reflects their relative certainty symmetry. There is a common circular function symmetry factor (η_H^2) or $(1-\eta^2)$, which forms an elliptic function with two elements (major axis, minor axis).

When the elliptic function composed of more than three elements becomes an eccentric ellipse, two or more levels of eccentric ellipse are produced. According to the two elements, the symmetry factor (η^2)=19/65 is not suitable for the three elements, and there is a balance and symmetry of the tentative circle logarithmic factor. Therefore, multiple trials(η^2)=17/65 are close to reality.

7.5. [Example 4]: {◎◎(x3)◎◎}Type

Features: Entangled convergence(K=+1),$(1-\eta^2)^5\le 1$: The mean value of the center zero of the group combination element coincides with the element (x_3).

Known: the number of power dimension elements (S=5); average value D0=13; boundary condition D=196560;

Power function: $K(5)/t=K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(q=q_{jik}))/t$

Discriminant: $(1-\eta^2)^5=(D/D_0)^5$=196560/371291=0.52940≤1; It belongs to the convergent entangled calculation.

(A), the calculation of the one-variable quintic equation $B=(S=5)\cdot D_0=5\cdot 13=65$; $(1-\eta^2)5\le 1$:

(7.5.1) $\{x\pm\sqrt{\mathbf{D}}\}^5=Ax^5+Bx^4+Cx^3+Dx^2+Ex^1+\mathbf{D}$

$=x^5\pm 65x^4+1690x^3\pm 21970x^2+142805x^1\pm 196560$

$=(1-\eta^2)\cdot[13^5\pm\underline{5\cdot 13}\cdot x^4+\underline{10\cdot 13^2}\cdot x^3\pm\underline{10\cdot 13^3}\cdot x^2+\underline{5\cdot 13^4}\cdot x^1\pm 13^3]$

$=[(1-\eta^2)\cdot\{x_0\pm 13\}]^5$;

(B), the calculation result of the fifth degree equation of one yuan:

（1），(indicating balance, rotation, conversion, vector subtraction)

(7.5.2) $\{x-\sqrt{\mathbf{D}}\}^5=x^5\pm 65x^4+1690x^3\pm 21970x^2+142805x^1\pm 196560$

$=[(1-\eta^2)\cdot\{0\}\cdot\{13\}]^5=0$;

（2），(indicating precession, vector addition)

(7.5.3) $\{x+\sqrt{\mathbf{D}}\}^5=x^5\pm 65x^4+1690x^3\pm 21970x^2+142805x^1\pm 196560$

$=[(1-\eta^2)\cdot\{2\}\cdot\{13\}]^5$

$=32\cdot 13^5=6289920$;

（3），(indicating balance, convergence vortex, radiation)

(7.5.4) $\{x+\sqrt{\mathbf{D}}\}^5=x^5\pm 65x^4+1690x^3\pm 21970x^2+142805x^1\pm 196560$

$=(1-\eta^2)\cdot[\{(2\to 0)\cdot\{13\}]^5$

$=(1-\eta^2)\cdot(6289920\to 0)$;

(C)， Solving: the roots of the quintic equation of one variable

The arithmetic sum of all elements $B=(5)\cdot D_0=65$; Since one element (x_3) of $\{x\}^5$ is equal to the average value, the remaining combination $\{x\}^4$ forms an invariant group combination in the tree state spanning value $(1/2)^2$.

Center zero point: $(1/2)^2(1-\eta^2)\mathbf{D}_0$=(1/4)(196560/371291)·65=0.13234=9/65 (the denominator is 65, the numerator is an integer); first take η^2=9/ 60 temptations (not satisfying symmetry), expand empirically (√2 times) η^2=13/65 and try again, until the balance and symmetry are satisfied.

Symmetry of circle logarithmic factor:

(7.5.5) $(1-\eta^2)\mathbf{B}=[(1-\eta_1^2)+(1-\eta_2^2)+(1-\eta_3^2)]-[(1-\eta_4^2)+(1-\eta_5^2)]\cdot 65$

$=[(1-8/13)+(1-5/13)]+[(1\pm 13/13)]-[(1+5/13)+(1+8/13)]\cdot 65$

$=(13/65)-(13/65)=0$;(satisfies the symmetrical balance condition).

Get: Root element:

(7.5.6) $x_1=(1-\eta_1^2)\mathbf{D_0}=(1-8/13)13=5$;

$x_2=(1-\eta_2^2)\mathbf{D_0}=(1-5/13)13=8$;

$x_3=(1\pm\eta_3^2)\mathbf{D_0}=(1\pm 13/13)13=13$;$x_4=(1+\eta_4^2)\mathbf{D_0}=(1+5/13)13=18$;

$x_5=(1+\eta_5^2)\mathbf{D_0}=(1+8/13)13=21$;

(±indicates the value of the central zero point)

Verification(1)、 $\mathbf{D}=(5\cdot 8\cdot 13\cdot 18\cdot 21)=196560$(满足);

$\mathbf{D}_0=(1/5)(5+8+13+18+21)=13$;(satisfied)

Verification(2)、 $\{x-\sqrt{\mathbf{D}}\}^5=[(1-\eta^2)\{0\}\{x_0\pm 13\}]^5$

$=(1-\eta^2)[13^5-5\cdot 13\cdot 13^4+10\cdot 13^2\cdot 13^3-10\cdot 13^3\cdot 13^2+5\cdot 13^4\cdot 13^1-13^5]$

=0；(satisfy the balance and symmetry formula)

The relative symmetry (satisfying the balance and symmetry formula) means that two values and functions with different uncertainties are processed by the circle logarithm to become relative symmetry. The center zero symmetry circle logarithm describes the two asymmetry Numerical value. Once the logarithm of the circle is eliminated, the asymmetry still restores the value and function of the asymmetry.

7.6. Discussion:

(1) The logarithm $(1-\eta_3^2)$ of the symmetrical circle at the center zero of the multi-element combination is often not consistent with the logarithm of the topological circle $(1-\eta_3^2)$. The reason for the span (iteration) "$(1/2)^2$": Because one element$(1-\eta_3^2)\cdot\mathbf{D}_0$ has become the central zero point and was eliminated, there are 4 combined elements that meet the symmetrical balance of the central zero point, and the group combination spans (Iteration) is$(1/2)^2\cdot(1-\eta_3^2)\cdot\mathbf{D}_0$, after obtaining the symmetry factor, try to verify again, until the balance and relative symmetry are reached, such as: [Example 4] In the trial verification, $(\eta^2)\mathbf{D}_0=35/65\to\{1/2\}^2\cdot 35/65=9/65\to 13/65$,（13/65）gains symmetry balance. This root calculation is simpler and more effective than the existing trial verification methods of quantum computing.

(2) The calculus equation is written as: $\{x\pm(\sqrt[S]{\mathbf{D}})\}^{K(Z\pm S\pm(N=0,1,2)\pm(P)\pm(q=qjik))/t}$where the order of calculus (N=±0,1,2) means that each element unit $\{q\}\in\{q_{jik}\}$ has zero order, first order, and second order in the process of calculus, which is reflected in the isomorphism of the circle logarithmic time calculation The dimensionality (S=5) remains unchanged, so the root element of the solution (S=5) will not be affected by the change of order. It also proves that it is feasible to reform the traditional calculus symbol into a power function, which makes the concept of "group combination" in calculus clearer.

(3) In particular, the univariate-limit concept of the traditional calculus process is not suitable for multivariable processes, and it is credible and successful to change the "group combination-center zero concept".

8. One-variable quintic equation (zero-order, first-order, second-order calculus equations)

At present, there is no way to find a satisfactory method for solving one-variable quintic equations and one-variable quintic calculus equations (including N=±0,1,2, that is, zero-order, first-order, and second-order calculus equations). The root cause is

(1) Traditional calculus and series expansion are based on the assumption that "multiple elements are the same as the mean"$\{X\}^S=(x_1x_1\ldots x_1)$, infinitesimal dy/dx and the concept of limit, one more element and one less element are for the order The mean value of the value change is not sensitive and the calculation is unstable. The traditional univariate calculus cannot be adapted.

(2) For calculus equations and polynomials with "non-mean elements"$\{X\}^S=(x_1x_2\ldots x_S)$, the non-repeated combination sets produce different mean group combinations. Solving requirements: the six internationally recognized symbols "can only use addition, subtraction, multiplication, division, and power extraction" can be called arithmetic mathematical proofs. The existing set theory, logical algebra, and computer-proven one-element higher-order equations belong to discrete calculations, which cannot solve entangled calculations, such as partial differential equations, functional analysis, and neural network engines. At present, there is no substantial improvement or satisfactory algorithm for the continuous multiplication and continuous addition of the uncertainty of multivariable elements.

The above facts exposed the inherent defects of calculus equations and computers for entangled (multivariate) algorithms. Calculus is facing a mathematical crisis again. Establish the logarithm concept of the calculus circle of "group combination": Under the constant number of total elements (S), establish the concept of the center zero point of "group combination"$\{x_0/\mathbf{D}_0\}$ with different changes. Through the principle of relativity, it is transformed into "irrelevant mathematical model, no specific element content, unsupervised calculation, unlabeled circle logarithm in closed [0,1] arithmetic analysis and calculation". The group combination concept of calculus integrates algebra-geometry-group theory-arithmetic calculation into a whole, and smoothly solves any high-order calculus equation.

In order to facilitate the understanding of the circle logarithm algorithm, take the five-degree equation of one variable as an example of the continuous multiplication of 5"non-mean elements".

Known: the number of dimensional power elements (S=5); boundary conditions

$\mathbf{D}=\mathbf{\Pi}_{(S=5)}(D_1D_2\ldots D_5)^K$; average value$\mathbf{D}_0$; function properties K=(+1,±0±1,- 1);

Solve: the roots of the fifth order calculus equation in one variable. The requirements are limited to the six arithmetic calculation symbols of "addition, subtraction, multiplication, division, and power".

Suppose: five "non-mean elements"$\{X\}^{KS}=\mathbf{\Pi}_{(S=5)}(x_1x_2\ldots x_5)^K$,(S=5),(qhas“0-0（5-5）;1-1；2-2；3-3；4-4”) combination, (item order P) non-repeated combination set; group combination mean $\{X\}^{KS}=\mathbf{\Sigma}_{(S=5)}(1/C_{(i=p)})^K\mathbf{\Pi}_{(i=p)}(x_1x_2\ldots x_5)^K$。Among them: time series (power function) K((S=5)±(N=0,1,2)±(q))/t；K=+1 positive power function; (S=5) one yuan 5 times; ±(N=0,1,2) zero-order (original function), first-order, second-order calculus equations; ±(q) the number of element combinations. The number of polynomial terms P=(5+1), the regularized combination coefficient: {1；5；10；10；5；1}=$\{2\}^{K(S=5)}=32^K$；；

The first characteristic mode: $\{x\}^{K(0)/t}=\{\sqrt[K5]{(x_1x_2\ldots x_5)}\}=\{\sqrt[K5]{\mathbf{D}}\}]^{K(\pm(S=5)\pm(N=0,1,2)\pm(q=0)/t}$；called "q=(0-0) or (5-5)combination";

The second characteristic mode: $\{\mathbf{x}_0\}^{K(1)/t}=\{(1/5)^K(x_1+x_2+\ldots+x_5)\}]^{K(\pm(S=5)\pm(N=0,1,2)\pm(q=1)/t}$; called "q=(1-1) or (4-4)combination";

Circle logarithm: $[(1-\eta^2)=\{^{KS}\sqrt{\mathbf{D}}/\mathbf{D}_0\}=\{^{KS}\sqrt{x}/\mathbf{D}_0\}]^{K(\pm(S=5)\pm(N=0,1,2)\pm(q)/t}$

Discriminant: $(1-\eta^2)=\{0 \text{ or } 1\}$ belongs to discrete calculation; $(1-\eta^2)^K\leq\{1\}^K$ belongs to entangled calculation;

8.1. The general formula of the fifth order calculus equation in one variable:

Definition 8.1.1 One-variable fifth-order calculus equation: (S=5); (±N=0,1,2); (±q=0,1,2,3,4,5);

One-variable fifth-order zero-order calculus equation (S=5); (±N=0); (±q=0,1,2,3,4,5);

General formula of quintic equation of one variable (called zero-order calculus equation, original function, polynomial):

Suppose: Given 5 elements $\{x\}=(x_1x_2x_3x_4x_5)$; average value $\mathbf{D}_0$ (or polynomial coefficient **B**); boundary and **D**, one-variable fifth-order equations and zero-order, first-order, and second-order calculus equations can be established.

(8.1.1)
$$\{x\pm(^5\sqrt{\mathbf{D}})\}^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t}= ax^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q=0)/t}$$
$$\pm bx^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q=1)/t}$$
$$+cx^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q=2)/t}$$
$$\pm dx^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q=3)/t}$$
$$+ex^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q=4)/t}$$
$$\pm(^5\sqrt{\mathbf{D}})^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q=5)/t}$$
$$=[(1-\eta^2)\cdot[x_0\pm\mathbf{D}_0)]^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t}$$
$$=[(1-\eta^2)\cdot\{0 \text{ 或 } 2\}\cdot\{\mathbf{D}_0\}]^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t};$$

Three calculation results:

(1), means balance, conversion, rotation:

(8.1.2) $$\{x-(^5\sqrt{\mathbf{D}})\}^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t}= [(1-\eta^2)\cdot\{0\}\cdot\{\mathbf{D}_0\}]^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t};$$

(2), represents precession, vector superposition:

(8.1.3) $$\{x+(^5\sqrt{\mathbf{D}})\}^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t}= [(1-\eta^2)\cdot\{2\}\{\mathbf{D}_0\}]^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t};$$

(3). Representing vector superposition and rotation, performing five-dimensional-six-dimensional vortex motion:

(8.1.4) $$\{x\pm(^5\sqrt{\mathbf{D}})\}^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t}= [(1-\eta^2)\cdot\{0,\ 2\}\cdot\{\mathbf{D}_0\}]^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t};$$

Find the root solution:

Calculate according to the discriminant and the logarithm of the probability circle$(1-\eta_H^2)=1$ and the logarithm of the symmetrical circle at the center zero point $(1-\eta_H^2)=0$:

The unary quintic equation is $\{X\}^{K(S=5)}=(^5\sqrt{x})=^5\sqrt{\mathbf{x_1x_2x_3x_4x_5}}$; the balanced formula$(^5\sqrt{\mathbf{D}})=^5\sqrt{(\mathbf{D_1D_2D_3D_4D_5})}$, here introduces the circle logarithm of the center zero point. Satisfy the logarithmic factor of the circle: compose four root solution forms

(8.1.5) $$(\eta_H)=\mathbf{\Sigma}_{(q=+1+2)}(+\eta_H)+\mathbf{\Sigma}_{(q=-3)}(-\eta_H)=0;$$

8.2, five-order calculus in one unknown, zero-order, first-order and second-order equations

(A), one-variable fifth-order zero-order calculus equation (S=5); (±N=0); (±q=0,1,2,3,4,5);

(8.2.1) $$\{(^S\sqrt{\mathbf{D}})\}^{K(Z)/t}= \{(^S\sqrt{x})\}^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(m)\pm(qjik))/t}$$
$$= A(^S\sqrt{x})^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(m)\pm(qjik=0))/t}\pm B(^S\sqrt{x})^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(m)\pm(qjik=1))/t}+\ldots$$
$$\pm(^S\sqrt{\mathbf{D}})^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(m)\pm(qjik=5))/t}$$
$$=\{x\pm(^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(m)\pm(qjik))/t}$$
$$=(1-\eta^2)[x_0\pm\mathbf{D}_0]^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(qjik))/t}$$
$$=(1-\eta^2)\{(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(m)\pm(qjik))/t};$$

(8.2.2) $$0\leq(1-\eta^2)^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(qjik))/t}\leq1;$$

(B), one-variable fifth-order first-order calculus equation (S=5); (±N=1); (±q=0,1,2,3,4,5);

(8.2.3) $$\{(^S\sqrt{\mathbf{D}})\}^{K(Z)/t}= \{(^S\sqrt{x})\}^{K(Z\pm(S=5)\pm(N=1)\pm(P)\pm(m)\pm(qjik))/t}$$
$$= A(^S\sqrt{x})^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik=0))/t}\pm B(^S\sqrt{x})^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik=1))/t}+\ldots$$
$$\pm(^S\sqrt{\mathbf{D}})^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik=5))/t}$$
$$=\{x\pm(^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik))/t}$$
$$=(1-\eta^2)[x_0\pm\mathbf{D}_0]^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik))/t}$$
$$=(1-\eta^2)\{(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik))/t};$$

(8.2.4) $$0\leq(1-\eta^2)^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik))/t}\leq1;$$

(C), one-variable fifth-order second-order calculus equation (S=5); (±N=2); (±q=0,1,2,3,4,5);

(8.2.5) $$\{(^S\sqrt{\mathbf{D}})\}^{K(Z)/t}= \{(^S\sqrt{x})\}^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}$$
$$= A(^S\sqrt{x})^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}\pm B(^S\sqrt{x})^{K(Z\pm(S=5)\pm(N=,2)\pm(P)\pm(m)\pm(qjik))/t}+\ldots$$
$$\pm(^S\sqrt{\mathbf{D}})^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}$$
$$=\{x\pm(^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}$$

$=(1-\eta^2)[x_0\pm\mathbf{D}_0]^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}$

$=(1-\eta^2)\{(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}$;

(8.2.6) $0\le(1-\eta^2)^{K(Z\pm(S=5)\pm(N=2)\pm(P)\pm(m)\pm(qjik))/t}\le1$;

(D), the integral calculus equation of the fifth degree (zero-order, first-order, second-order) in one element (S=5); (±N=0,1,2);(±q=0,1,2,3 ,4,5);

(8.2.7) $\{(^S\sqrt{\mathbf{D}})\}^{K(Z)/t}=\{(^S\sqrt{x})\}^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$

$=A(^S\sqrt{x})^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}\pm B(^S\sqrt{x})^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}+\ldots$

$\pm(^S\sqrt{\mathbf{D}})^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$

$=\{x\pm(^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$

$=(1-\eta^2)[x_0\pm\mathbf{D}_0]^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$

$=(1-\eta^2)\{(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}$;

(8.2.8) $0\le(1-\eta^2)^{K(Z\pm(S=5)\pm(N=0,1,2)\pm(P)\pm(m)\pm(qjik))/t}\le1$;

Definition 8.2.2 Calculus order value change rule: the crossover of the combination form of "eigenmode-group combined average".

First-order calculus equation $[\underline{A(^S\sqrt{x}),A(^S\sqrt{D})}]^{K(Z\pm(S=5)\pm(N=1)\pm(P=1)\pm(m)\pm(q=0))/t}$;

Second-order calculus equation $[\underline{A(^S\sqrt{x}),A(^S\sqrt{D})}]^{K(Z\pm(S=5)\pm(N=2)\pm(P=2)\pm(m)\pm(q=0))/t}$ $\pm[\underline{B(^S\sqrt{\mathbf{x}}),B(^S\sqrt{D})}]^{K(Z\pm(S=5)\pm(N=2)\pm(P=2)\pm(M)\pm(q=1))/t}$;

Find the root element: same as the above "one-variable quintic equation" example:

The unary quintic equation is $x_{(S=5)}=\sqrt{x}=\sqrt{\mathbf{x_1x_2x_3x_4x_5}}$; using $x^5=\mathbf{D}=\mathbf{x_1x_2x_3x_4x_5}$, introducing the central zero point "◎（**0**）◎◎◎"、"◎◎（**0**）◎◎◎"、"◎（◎）◎◎◎""◎◎（◎）◎◎"type round logarithm processing.

9. S-order calculus equation of one variable

Definition 9.1.1 One-variable S-order calculus equation: the number of total elements (S) remains unchanged, and the boundary condition of zero-order (original function) $\mathbf{D=\Pi(D_1D_2...D_S)}$ remains unchanged.

(1) When the calculus order value change is limited to (zero-order, first-order, second-order), the group combination is a triple generator $\{q_{jik}\}$, which is called a low-dimensional sub-calculus equation.

(2) When the calculus order value changes higher than (second order), the group combination element {q} is called the high-dimensional sub-calculus equation.

Here are collectively referred to as "calculus eigenmodes (average value of positive, medium, and negative power functions)". It is called "Euler root formula", "L automorphic function", and "L automorphic prime number function" in number theory.

(3) When calculus $\{q\}\in\{q_{jik}\}$, it is said that high-dimensional sub-calculus is condensed in low-dimensional sub-calculus equation. When low-dimensional, $\{q\}=\{q_{jik}\}$ is included. In other words, the basic three-dimensional space composed of the generator $\{q_{jik}\}$ of the triplet contains high-dimensional space.

Suppose: unknown variable $x=x_1x_2\ldots x_S$(S=natural number); combined form $\{q\}\in$generator $\{q_{jik}\}$ boundary condition**D** (in bold), $\{\mathbf{D}_0\}=\{S/2\}$ represents the average value of characteristic mode . In calculus, because the order value (±N=1) changes, the area of element change (±P=1), infinity (Z); A=1; K=(+1,0,-1) respectively represent positive power functions , Balance, transfer function, negative power function, time series. Group combination {} means group combination. Power function K(Z)/t=K(Z±S)/t=K(Z±S±(N=J)±(P)±(m)±(q))/t;

In the process of raising and lowering the order of the unary S-degree calculus equation, satisfy (S) unchanged, (N=±0,1,2,3,4...J), the change of (P) and (q) and the order value (level) The change is synchronized, and ±(m) reflects the up and down change area of the element (definite integral). In the group combination, the known boundary conditions and the unknown boundary conditions are expanded synchronously.

In particular, the combination coefficient: $(1/C(S\pm p))^K=((p+1)(p-0)...3\cdot2\cdot1)!/[(S-0)(S-1)...(S-p)!])^K$, the content is similar to the traditional$\mathbf{C|^p_s}$ labeling, except that the traditional labeling method of combination coefficients cannot satisfy the expansion of multi-variable in multi-regions and multi-levels.

(A), the expansion of the known boundary conditions:

(9.1.1) $\{(^S\sqrt{\mathbf{D}})\}^{K(Z)/t}=\{(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$

$=A(^S\sqrt{\mathbf{D}})^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}+B(^S\sqrt{\mathbf{D}})^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1))/t}$

$+C(^S\sqrt{\mathbf{D}})^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=2))/t}+\ldots$

$=\mathbf{D}_0^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}+\mathbf{D}_0^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1))/t}+\ldots$

$+\mathbf{D}_0^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=S))/t}$;

(B), Unknown boundary condition expansion:

(9.1.2) $\{(^S\sqrt{x})\}^{K(Z)/t}=\{(^S\sqrt{x})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$

$=X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$

$=A(^S\sqrt{X})^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}+B(^S\sqrt{X})^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1)/t}+\ldots$

$+C({}^{S}\sqrt{X})^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=2))/t}+\ldots$
$=\mathbf{x}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}+\mathbf{x}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1))/t}+\ldots+\mathbf{x}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=S))/t}$;

(C), one-to-one comparison of round logarithms:

(9.1.3) $(1-\eta^2)^{K(1)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$
$=\{({}^{S}\sqrt{x})/(\mathbf{D}_0)\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$
$=\{0$ 到 $1\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

(D), logarithmic equation of circle

(9.1.4) $(1-\eta^2)^{K(1)/t}=(1-\eta^2)^{K(Z)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$
$=(1-\eta^2)^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}+(1-\eta^2)^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1))/t}+\ldots$
$+(1-\eta^2)^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=p))/tt}$;

(E), calculus equation

(9.1.5) $\{X\pm({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}=\underline{a}\underline{x}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}$
$\pm\underline{b}\underline{X}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1))/t}+C\underline{X}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=2))/t}\pm\ldots$
$+LX^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}+\ldots\pm\underline{\mathbf{D}}$
$=(1/C_{(S\pm0)})^{K}X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}$
$\pm(1/C_{(S\pm1)})^{K}X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qji=-1))/t}\mathbf{D}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+1))/t}$
$+(1/C_{(S\pm2)})^{K}X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=-2))/t}\mathbf{D}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+2))/t}\pm\ldots$
$+(1/C_{(S\pm p)})^{K}\cdot X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=-p))/t}\mathbf{D}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+p))/t}$
$\pm({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+0))/t}$
$=\{x\pm({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$
$=[(1-\eta^2)\{x_0\pm\mathbf{D}_0\}]^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot(\mathbf{D}_0)\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

Definition 9.1.2 The rule of calculus order value change: the span (iteration) of the combination form of "group combination".

First-order calculus equation: $[\underline{A({}^{S}\sqrt{x})},\ \underline{A({}^{S}\sqrt{D})}]^{K(Z\pm(S=\Sigma qjik)\pm(N=1)\pm(P=1)\pm(m)\pm(q=0))/t}$;

Second-order calculus equation: $[\underline{A({}^{S}\sqrt{x})},\ \underline{A({}^{S}\sqrt{D})}]^{K(Z\pm(S=\Sigma qjik)\pm(N=2)\pm(P=2)\pm(m)\pm(q=0))/t}$;
$[\underline{B({}^{S}\sqrt{\mathbf{x}})},\ \underline{B({}^{S}\sqrt{D})}]^{K(Z\pm(S=\Sigma qjik)\pm(N=2)\pm(P=2)\pm(M)\pm(q=1))/t}$;

Third-order calculus equation: $[\underline{A({}^{S}\sqrt{x})},\ \underline{A({}^{S}\sqrt{D})}]^{K(Z\pm(S=\Sigma qjik)\pm(N=3)\pm(P=3)\pm(m)\pm(q=0))/t}$;
$[\underline{B({}^{S}\sqrt{\mathbf{x}})},\ \underline{B({}^{S}\sqrt{D})}]^{K(Z\pm(S=\Sigma qjik)\pm(N=3)\pm(P=3)\pm(m)\pm(q=1))/t}$;
$[\underline{C({}^{S}\sqrt{x})},\ \underline{C({}^{S}\sqrt{D})}]^{K(Z\pm(S=\Sigma qjik)\pm(N=3)\pm(P=3)\pm(m)\pm(q=2))/t}$; ……;

In the formula: $[\underline{C({}^{S}\sqrt{\mathbf{x}})},\ \underline{C({}^{S}\sqrt{\mathbf{D}})}]$ indicates that the related sub-item "group combination" is adjusted accordingly when the order value changes.

Find the root element: derive it in the same way as the "one-variable quintic equation" above.

The unary S-degree equation is $x_{(S=S)}=\sqrt{x}=\sqrt{\mathbf{x_1x_2x_3\ldots x_S}}$; using $x^S=\mathbf{D}=\mathbf{x_1x_2x_3\ldots x_S}$, introducing the central zero point "◎…◎（**0**）◎◎…◎"、"◎…◎◎（**0**）◎◎…◎"、"◎（◎）◎◎…◎""◎…◎（◎）◎…◎"、"**……**"The center zero point is processed by logarithm of the relative symmetry circle.

Define 9.1.3 any balanced calculus equation, there are two kinds of analysis and calculation results:

(1) Represents balance, conversion, and rotation:

(9.1.3) $\{X-({}^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}=(1-\eta^2)[\{0\}\cdot\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

(2) Represents precession and vector superposition:

(9.1.4) $\{X+({}^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}=[(1-\eta^2)\{2\}\cdot\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

(3) Representing five-dimensional-six-dimensional and higher-order vector vortex motion:

(9.1.5) $\{X\pm({}^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}=[(1-\eta^2)\cdot\{0,2\}\cdot\{\mathbf{D}_0\}]^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

(3) The geometric space is expressed as the major axis and minor axis of the ellipse plane: $(1-\eta^2)=(1-\eta)\cdot(1+\eta)$according to the time series (power function) $K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t$, respectively, in a cyclical equidistant, equal-ratio mode to carry out the "rotation + precession" vortex method.

Therefore, no matter how the order value of each level changes, the analysis method of formula (9.1.5) can be used to find the root solution. In the same way, the above-mentioned method of solving any high-order calculus equation can also be used. The circle logarithm calculus algorithm solves the calculus equation of "one element quadratic to one element five times to one element S times".

It can be found that the radical solutions of any calculus equation are solved by the same analysis and calculation method, which challenges the "fifth or fifth order of the problem of solving high- and low-order calculus equations" and "Abel's Impossibility Theorem". It is impossible to solve the equations of the second order or above by radicals".

10. Conclusion

The one-variable high-order calculus equation has strong multivariable asymmetry, uncertainty, and random variability. It has been a mathematical problem for hundreds of years. The existing traditional algorithms, including computer programs, can only handle symmetrical and discrete big data statistics, but cannot satisfy the entangled (such as neural network) calculations that have mutual influence.

According to the internationally recognized calculus equation and polynomial algorithm method, the following three conditions must be met:

(1) It is limited to arithmetic calculations using the six themes of "addition, subtraction, multiplication, division, and square rooting".

(2) It must be closely related to calculus equations and polynomial coefficients.

(3) Arithmetic analysis controlled between "0 and 1".

Through the above examples, it is described that the circle logarithm algorithm is not only suitable for one-variable two to five-degree calculus equations, but also for one-variable high-order calculus equations. The same method is used. In other words, any calculus equation and polynomial only need to know:

(1) The number of elements(S);

(2) Polynomial coefficients (A, B, C,...P≤(S-1);

(3) Boundary conditions and (including parallel/serial) composition,

It can be written as arbitrary high-order calculus equations and converted into invariant characteristic modes and unsupervised, unrelated mathematical models. The circle logarithm contains "probability circle logarithm, topological circle logarithm, center zero symmetrical circle logarithm", and linear analysis is performed. Seek the root solution.

（10.1.1） $\{X\pm(\sqrt[KS]{\mathbf{D}})\}^{K(Z\pm S\pm N\pm q)/t} = [(1-\eta^2)\cdot\{X_0\pm D_0\}]^{K(Z\pm S\pm N\pm q)/t}$;

（10.1.2） $(1-\eta^2)^{K(Z\pm S\pm N\pm q)/t} =\{0$ 到 $1\}^{K(Z\pm S\pm N\pm q)/t}$;

In this way, the circle logarithm algorithm integrates the macro-continuous analysis and the micro-discrete calculation into a whole, and performs arithmetic analysis and cognition in {0 to 1}, which not only breaks through Abel's "fifth degree equation, it is impossible to have The "radical solution" may cause the reorganization of the traditional calculus concept and become the mathematical foundation of a new generation of quantum computers. It has the practical and profound historical significance of the mathematical theoretical foundation and applied engineering. (Finish)

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