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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.

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Key words: Calculus equation; group combination; characteristic module; circle logarithm; power function (time series)

Editor's Note:

In November 2020, "American Journal of Science" published "Unlabeled Cognitive Model Based on Circle Logarithmic Graph Algorithm" p52-84, and proposed a "0 to 1" circle logarithm algorithm, which is innovative and reliable Sex, simplicity and universality. The calculation of "0 to 1" is currently a hot topic in international research. This article has attracted international attention and support, and some people do not understand it. In order to facilitate readers to understand the logarithm of the circle, the example is rearranged: the complete solution of the 2nd/3rd/4th/5th degree calculus equation of one yuan is provided for interested experts, scholars, readers to verify, check, explore, and research. Computational experts can be provided to write new computer programs for the logarithm of the circle. Welcome guidance, teaching and cooperation. 2021.4.15.

1、 Introduction

From the establishment of calculus by Newton-Leibniz in the 1760s to the 1970s, to the Lebesgue measure in the early 20th century, to real variable functions and functional analysis, they were all based on the assumption of "single variable" $\{X\}^S=(x_1x_1\ldots x_1)$ for derivation and calculation.

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, currently manufactured (discrete) "quantum computers" have reached 78 qubits. It belongs to the multivariate of the "quantization" mean value (discrete type, or neutral optical quantum entanglement).

The contemporary phenomenon of "entangled state" of non-uniformity, asymmetric and interaction of physical quantity particles, a combination set {X}S=(x1x2...xS) of multivariate "non-mean elements" of calculus is proposed. The traditional calculus algorithm, which has dominated for hundreds of years, cannot adapt, exposing its inherent defects. Current computers can only perform discrete big data statistics. Many people at home and abroad are trying to reform and reform calculus and calculus equations to solve the entangled cognitive analysis with neural networks as the theme.

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.

How to break through the old framework of traditional calculus to reform or reorganize and give new vitality to calculus? . That is to say, whoever breaks through the "one-variable quintic equation (including N=±0,1,2-order calculus equation)" will have the dominant power in mathematical reform.

Here is an additional example: 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 to verify and check calculations.

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 $\{(^S\sqrt{X})/\mathbf{D}_0\}$-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:

(2.1.1)

$(1-\eta_H^2)^{KS}=[(x)/\mathbf{D}_0]=[(x)/(\mathbf{D}_0)]^2=[(x)/(\mathbf{D}_0)]^{KS}$;

(2.1.2) $(1-\eta_H^2)=(x_1+x_2+x_3+x_4+x_5)/\boldsymbol{\Sigma}_{(i=S=5)}(x)$
$=(\eta_{h1}+\eta_{h2}+\eta_{h3}+\eta_{h4}+\eta_{h5})=\{1\}$,

(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, functional:

(2.1.4) $(1-\eta_H^2)=(x_1+x_2+x_3+x_4+x_5)/\boldsymbol{\Sigma}_{(S=5)}(x)$
$=(\eta_{h1}^2+\eta_{h2}^2+\eta_{h3}^2+\eta_{h4}^2+\eta_{h5}^2)=\{1\}$,

(2.1.5) $x_1=(1-\eta_{h1})D_0$; $x_2=(1-\eta_{h2})D_0$; $x_3=(1\pm\eta_{h3})D_0$; $x_4=(1+\eta_{h4})D_0$; $x_5=(1+\eta_{h5})D_0$;

2.2. Topological circle logarithm

(2.2.1) $(1-\eta^2)=(x_0)/\mathbf{D}_0=(x)/(\mathbf{D}_0)^2=(x)/(\mathbf{D}_0)^S$;

(2.2.2) $(1-\eta^2)=\boldsymbol{\Sigma}_{(i=S)}[(x_{05}^2)/(D_{05}^2)]=\{0 \text{ to } 1\}$;

2.3. The logarithm of the symmetrical circle at the center zero point,

(D), The logarithm of the symmetrical circle at the center zero point to ensure the balance of the equation and the relative symmetry of the conversion:

(2.3.1) $\boldsymbol{\Sigma}_{(i=-S)}(1-\eta_\omega^2)+\boldsymbol{\Sigma}_{(i=-S)}(1-\eta_\omega^2)$
$=\boldsymbol{\Sigma}_{(i=-S)}[(x_{05}^2)/(D_{05}^2)]+\Sigma_{(i=+S)}[(x_{05}^2)/(D_{05}^2)]$
$=\boldsymbol{\Sigma}_{(i=-S)}[(x_{05})/(D_{05})]+\Sigma_{(i=+S)}[(x_{05}^2)/(D_{05}^2)]=0$;

(E). Topological circle logarithmic symmetry: (1-ηT2)=(1/2);

Features: Obtained through simultaneous equations of addition and multiplication of logarithm of group combination circle

(2.3.2)

$(1-\eta_T^2)B=[\boldsymbol{\Sigma}_{(i=+S)}(1-\eta_T)^{+1}+\boldsymbol{\Sigma}_{(i=-S)}(1+\eta_T)^{-1}]B=(0)$;
$\boldsymbol{\Sigma}_{(i=+S)}(1-\eta_T^2)^{+1}=\boldsymbol{\Sigma}_{(i=-S)}(1-\eta_T^2)^{-1}$;
$\boldsymbol{\Sigma}_{(i=+S)}(\eta_T^2)=\boldsymbol{\Sigma}_{(i=-S)}(\eta_T^2)$;

(F) Probability of calculus equation-symmetry of topological center zero point:

(2.3.3) $\boldsymbol{\Sigma}_{(i=S)}(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}$
$=[\boldsymbol{\Sigma}_{(i=+S)}(1-\eta^2)^{+1}+\boldsymbol{\Sigma}_{(i=-S)}(1-\eta^2)^{-1}]^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}=0$;

2.4, circle logarithm equation

(2.4.1) $(1-\eta^2)=(1-\eta_H^2)(1-\eta_\omega^2)(1-\eta_T^2)=\{0 \text{ to} 1\}$;

2.5, Calculus circle logarithmic equation expansion

(2.5.1)
$(1-\eta^2)=(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q=0)/t}+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q=1)/t}+\ldots+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q=p)/t}=\{0 \text{ to} 1\}$;

2.6, the three-dimensional (Cartesian coordinates) expansion of the calculus circle logarithmic equation

(2.6.1) $(1-\eta^2)=(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{i}+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{j}$
$+(1-\eta^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{k}=\{0 \text{ to} 1\}$;

2.7, Calculus circle logarithmic electric rotation equation expansion

(2.7.1) $(1-\eta^2)=(1-\eta_{[yz]}^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{i}+(1-\eta_{[zx]}^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{j}$
$+(1-\eta_{[xy]}^2)^{K(Z\pm Q\pm(S)\pm(N=\pm 0,1,2)\pm(q)/t}\mathbf{k}=\{0 \text{ to} 1\}$;

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;

3. One-variable quadratic calculus equation

The traditional one-dimensional quadratic calculus equation has been recorded in the "Nine Chapters of Mathematical Classics" of the Han Dynasty in China more than 2,000 years ago. In the 18th century, the Veda theorem and discriminant processing, as well as the Holm method, were cumbersome and inconvenient to apply. The circle logarithm algorithm is used here, which has the time calculation of isomorphism and consistency, and can be extended to any high-order calculus equation. In other words, calculus reforms or new computer algorithms start here.

Suppose: unknown variable $x_{(S=2)}{}^2=x_1x_2$; $dx_{(S=2)}=\sqrt{x_1x_2}$; unit body $\{q\}\in$ triplet generator $\{q_{jik}\}$, boundary condition $\mathbf{D}$ (in bold), $\{\mathbf{D_0}\}=\{(x_1+x_2)/2\}$ represents the average value of the characteristic mode. In calculus, because the order value (±N=1) changes, the domain value of the integer change of the element or the multiple of the change (m), the element changes within the m=(a+b) domain of the definite integral), infinity (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. The subscript is the number of combined elements.

Calculus power function $K(Z)/t=K(Z\pm S)/t=K(Z\pm S\pm q_{jik})/t$;

Element group combination: $x^2=x_1x_2$; $x=\sqrt{x_1x_2}=\{X_{(S=2)}\}$

Calculus unit: $dx=\sqrt{x_1x_2}=(1-\eta^2)\mathbf{D}_0$; $\mathbf{D}_0=(1/2)(x_1+x_2)$;

Discriminant: $(1-\eta^2)^2=4ac/b^2=(\sqrt{\mathbf{D}}/\mathbf{D_0})^2\le 1$; According to the discriminant result (adapt to any higher-order calculus analysis), determine the nature of the function:

(1), Statistical analysis of dispersion: $(K=\pm 0,(1-\eta^2)=1)$;

(2), Convergence entanglement analysis: $(K=+1,(1-\eta^2)\le 1)$;

(3), Diffusion entanglement analysis: $(K=-1,(1-\eta^2)\ge 1)$;

(4), Calculus is a cross-order(N=±J)(J=0,1,2,…J natural number) group combination unit body:

Differential:(N=-J), $dx=\sqrt{x_1x_2}=X_{(S=2)}$;

Integral: (N=+J) , $\int dx_{(S=2)}=(1/2)x_{(S=2)}{}^2=(1/2)(\sqrt{x_1x_2})^2$

3.1.1, one-variable quadratic zero-order calculus equation (called original function)(S=2),(N=±0);

(3.1.1) $(x\pm\sqrt{\mathbf{D}})^2=Ax^2\pm Bx+\mathbf{D}$
$=x^2\pm 2x\mathbf{D_0}+(\sqrt{\mathbf{D}})^2$
$=(1-\eta^2)^2\cdot(x_0\pm\sqrt{\mathbf{D}_0})^2$
$=(1-\eta^2)^2\cdot\{0,2\}\cdot\mathbf{D_0}$;

Solution: According to $x_1x_2=(1-\eta^2)\mathbf{D_0}^2$; Analysis: $x_1=(1-\eta)\mathbf{D_0}$; $x_2=(1+\eta)\mathbf{D_0}$;

3.1.2. Three results of equation calculation:

(1), (representing balance, rotation, conversion, subtraction in complex space);

(3.1.2) $(x_0-\sqrt{\mathbf{D}}_0)^2=(1-\eta^2)\{0\}\mathbf{D_0}^2$;

(2),(indicating precession, vector superposition, complex space addition, precession);

(3.1.3) $(x_0+\sqrt{\mathbf{D}}_0)^2=(1-\eta^2)\{2\}\mathbf{D_0}^2$;

(3),(representing the vortex space);

(3.1.4) $(x_0\pm\sqrt{\mathbf{D}}_0)^2=(1-\eta^2)\cdot[\{0,2\}\mathbf{D}_0]^2$;

3.2. [Example 5] Discrete quadratic equation of one variable $(1-\eta^2)^{(\pm 0)}=1$;

(A), quadratic equation of one variable (entangled type of convergence)

Features:(S=2),(N=±0)，(K=±0), which belong to discrete statistical calculations;

Known: (S=2)；$D_0=x_0=3.5$；$\mathbf{D}=3.5^2=12.25$；

Discriminant: $(1-\eta^2)^2=(\sqrt{12.25})/3.5)^2=12.25/12.25=1$；it is a discrete statistical calculation.

Analysis: For discrete quadratic equations of one variable:

(3.2.1) $(x\pm\sqrt{\mathbf{D}})^2=x^2\pm Bx+\mathbf{D}$
$=x^2\pm 7x+(\sqrt{12.25})^2$
$=[x_0{}^2\pm 2\cdot x_0\cdot 3.5+3.5^2]$
$=(x_0\pm D_0)^2$
$=\{0，2\}^2\cdot 3.5^2$；

(B) Two calculation results of the equation:

(1), (indicating discrete balance and rotation);

(3.2.2) $(x-\sqrt{\mathbf{D}})=\{0\}\cdot 3.5^2=0$；

(2), (representing discrete precession and superposition);.

(3.2.3) $(x+\sqrt{\mathbf{D}})=\{2\}\cdot 3.5^2=49$；

(3), (representing discrete spiral space expansion);

(3.2.4) $(x_0\pm\sqrt{\mathbf{D}}_0)^2=(1-\eta^2)\cdot[\{0\leftrightarrow 2\}\mathbf{D_0}]^2$;

3.3. [Example 6] Convergent one-dimensional quadratic equation $(1-\eta^2)^{(+1)}\le 1$;

(A), quadratic equation of one variable (entangled type of convergence)(S=+2),(N=±0);

Known: (S=2)；$D_0=x_0=3.5$；D=12；

Discriminant: $(1-\eta^2)^2=(\sqrt{12}/3.5)^2=12/12.25=0.96\le 1$; it belongs to the convergent entangled calculation.

Analysis: For the function of convergence: $\eta^2=1/49$；$\eta=1/7$; Function properties: (K=+1);

(3.3.1) $(x\pm\sqrt{\mathbf{D}})^2=x^2\pm Bx+\mathbf{D}$
$=x^2\pm 7x+(\sqrt{\mathbf{12}})^2$
$=(1-\eta^2)[x_0{}^2\pm 2\cdot x_0\cdot 3.5+3.5^2]$
$=[(1-\eta^2)\cdot(x_0\pm D_0)]^2$
$=(1-\eta^2)\cdot\{2\rightarrow 0\}^2\cdot 3.5^2$；

(B) Two calculation results of the equation:

（**1**），(representing the balance and rotation of the convergent entangled type);

(3.3.2) $(x-\sqrt{\mathbf{D}})=(1-\eta^2)\cdot\{0\}\cdot 3.5^2=0$;

(2), (representing the precession and superposition of the convergent entangled type);.

(3.3.3) $(x+\sqrt{\mathbf{D}})=(1-\eta^2)\cdot\{2\}\cdot 3.5^2=48$;

(3), (Represents the convergent entangled vortex space expansion);

(3.3.4)

$(x\pm\sqrt{\mathbf{D}})=(1-\eta^2)\cdot[\{0\leftrightarrow 2\}\mathbf{D_0}]^2=(1-\eta^2)\cdot\{0\leftrightarrow 2\}\cdot 3.5^2=(0\leftrightarrow 48)$;

(C) Two methods for solving the roots, the root calculation results are consistent:

(1), The logarithm of the symmetric topological circle at the center zero point （B=7）

(1-ηT2)2=(√12)/3.5)2=12/12.25=0.96≤1; η2=1/49; η=1/7;

(1-ηT2)B=[(1-ηT)+1·(1+ηT)-1]B=0; ηT=(1/7); (satisfying symmetry).

x1=(1-ηT)B=(1-1/7)·7=3; x2=(1+η)D0=(1+1/7)·7=4;

(2)。 The logarithm of the symmetric probability circle at the center zero point (D0=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).

$x_1=(1-\eta_T)B=(1-1/7)\cdot 7=3$; $x_2=(1+\eta)\mathbf{D_0}=(1+1/7)\cdot 7=4$;

Verification (1): $[(1-\eta^2)\cdot\mathbf{D}_0]^{(2)}=(1-\eta^2)^{(2)}\cdot 3.5^2=12$;

Verification (2): $(1-\eta^2)\cdot[3.5^2-2\cdot 3.5^2+3.5^2]=0$;

3.4. [Example 6] The diffusive one-dimensional quadratic equation

One-dimensional quadratic equation (entangled type of diffusion)

Features: (S=2), (K=-1), $(1-\eta^2)\geq 1$ or $(1-\eta^2)^{(-1)}\leq 1$;

Known: (S=-2); $\mathbf{D}$=600.25; $\mathbf{D}_0^{(-1)}=3.5^{(-1)}$;

Discriminant:

$(1-\eta^2)=(\sqrt{588}/3.5)=[588/3.5^2]=(48.0)\geq(1)$;

Or: $(1-\eta^2)^{(-1)}=(48/49)^{(-1)}\leq(1)$; $\eta=(1/7)^{(-1)}\leq(1)$;

Discriminant result:(K=-1), $(1-\eta^2)^{(-1)}\leq(1)$ it belongs to the diffusive entanglement calculation.

(A). Analysis: For the function of diffusibility: $(1-\eta^2)^{(-1)}=(1/49)^{(-1)}$; $(\eta)^{-1}=(1/7)^{(-1)}$;

Function properties:(K=-1); KS=-2)=K(-2); or K=-1;

or:

$D_0^{K(1)}=x_0^{K(-1)}=[(1/2)^{(-1)}(x_1^{(-1)}+x_2^{(-1)})]^{(-1)}=[(3.5/12)]^{K(-1)}\cdot 12$;

(3.4.1) $(x\pm\sqrt{\mathbf{D}})^{K(2)}=x^{(-2)}\pm Bx^{(-1)}+\mathbf{D}$

$=x^{(-2)}\pm 7x^{(-1)}+(\sqrt{580})^{(+2)}$

$=(1-\eta^2)^{(-2)}\cdot[x_0^{(-2)}\pm x_0^{(-1)}\cdot D_0^{K(+1)}+3.5^2]^{K(-1)}$

$=(1-\eta^2)^{(-2)}\cdot[x_0^{(-2)}\pm x_0^{(-1)}\cdot 3.5^{(+1)}+3.5^2]^{K(-1)}$

$=[(1-\eta^2)\cdot(x_0\pm D_0)]^{(-2)}$

$=[(1-\eta^2)\cdot\{0\rightarrow 2\}\cdot 3.5]^{-(2)}$;

(B) Three calculation results of the equation:

(1) Represents the balance and rotation of the diffusive entanglement type);

(3.4.2) $(x-\sqrt{\mathbf{D}})^{(-2)}=(1-\eta^2)\cdot[\{0\}\cdot 3.5]^{(-2)}=0$;

(2) Represents the precession and superposition of the convergent entangled type);

(3.4.3) $(x+\sqrt{\mathbf{D}})^{(-2)}=[(1-\eta^2)\cdot\{2\}\cdot 3.5]^{K(-2)}=2352$;

(3), represents the vortex space of diffusion);

(3.4.4) $(x_0\pm\sqrt{\mathbf{D}_0})^{(-2)}=[(1-\eta^2)\cdot\{0\leftrightarrow 2\}\cdot\mathbf{D_0}]^{(-2)}$;

(C) The two methods for solving roots can be referred to using discrete neutral power function calculations:

The logarithm of the symmetric topological circle with the center zero point（B=7）, $(1-\eta)^{(-2)}=49$:

$(1-\eta^2)B=(1-\eta)\cdot B=0$; $\eta=(1/7)$; (satisfying symmetry).

(3.4.5)

$x_1^{(-1)}=[(1-\eta)\cdot B]^{(-1)}=[(1-1/7)\cdot 7]^{(-1)}=[7\cdot 3]^{(-1)}$;

$x_2^{(-1)}=[(1+\eta)\cdot\mathbf{D_0}]^{(-1)}=[(1+1/7)\cdot 7]^{(-1)}=[7\cdot 4]^{(-1)}$;

Verification (1): $[(1-\eta^2)\cdot\mathbf{D}_0]^{(-2)}=[(1-\eta^2)\cdot 2\cdot 3.5]^{(-2)}=49\cdot 12$;

Verification (2): $(1-\eta^2)^{(-2)}\cdot[3.5^{(-2)}-2\cdot 3.5^{K(-2)}+3.5^{K(-2)}]=0$;

(D), prove [example 5] function reciprocity

Suppose:

Average value of the positive power function: $x_0^{(+1)}=[(1/2)^{+1}(x_1^{+1}+x_2^{+1})]^{+1}$;

Average value of the negative power function: $x_0^{(-1)}=[(1/2)^{-1}(x_1^{-1}+x_2^{-1})]^{-1}$;

Boundary conditions: $\mathbf{D}_0=(1/2)(\mathbf{D}_1+\mathbf{D}_2)$;

Proof: The second term group combination in the equation (term order):

$7x^{(-1)}=2\cdot\mathbf{D}_0^{(+1)}\cdot x^{(-1)}=2\cdot 3.5\cdot\sqrt{(x_1x_2)}^{(-1)}$

(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;

$x_1x_2/[(1/2)^{(-1)}(x_1^{(-1)}+x_2^{(-1)})]^{(-1)}=x_0^{(+1)}$;

(3.4.6)

$x_1x_2=x_1x_2/(1/2)(x_1^{+1}+x_2^{+1})\cdot(1/2)(x_1^{+1}+x_2^{+1})$

$=[(1/2)^{-1}(x_1^{-1}+x_2^{-1})]^{-1}\cdot[(1/2)^{+1}(x_1^{+1}+x_2^{+1})]^{+1}$

$=x_0^{(-1)}\cdot x_0^{(+1)}=x_0^{(\pm 1)}$;

$x_1x_2/[(1/2)^{(-1)}(x_1^{(-1)}+x_2^{(-1)})]^{(-1)}=x_0^{(+1)}$;

(3.4.6)

$x_1x_2=x_1x_2/(1/2)(x_1^{+1}+x_2^{+1})\cdot(1/2)(x_1^{+1}+x_2^{+1})$
$=[(1/2)^{-1}(x_1^{-1}+x_2^{-1})]^{-1}\cdot[(1/2)^{+1}(x_1^{+1}+x_2^{+1})]^{+1}$
$=x_0^{(-1)}\cdot x_0^{(+1)}=x_0^{(\pm1)}$;

(2) Reciprocity of circle logarithm

(3.4.7) $(1-\eta^2)^{(\pm1)}=x_0^{(-1)}\cdot\mathbf{D}_0^{(+1)}$
$=x_0^{(-1)}/\mathbf{D}_0^{(-1)}\cdot x_0^{(+1)}/\mathbf{D}_0^{(+1)}$
$=(1-\eta^2)^{(-1)}\cdot(1-\eta^2)^{(+1)}$;

In particular, the above two-element proof can be extended to the analytic function of high-order calculus equations whose analytic element is "2", as well as {q}=±1,2…J and any high-order differential of calculus and reciprocity (N=-1,2…J) and integral (N=+1,2…J), etc., multivariable elements of calculus can be established through element-by-element, step-by-step, and sequential iterations.

3.5. One-dimensional quadratic first-order, second-order calculus equations (K=+1,0,-1), (N=±0,1,2);

3.5.1, quadratic and first-order calculus equation of one variable (K=+1,0,-1), (N=±0,1);

Features:

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

The power function (time series) factor (S=2),(N=±0,1),(P=±0,1).{q}={$q_{jik=}$±0,1}, differential means to reduce by one order:

(3.5.1) $\{X\pm({}^{S}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P-1)\pm(m)\pm(q))/t}$
$=\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=-1)\pm(P-1)\pm(M)\pm(qjik=0))/t}\pm B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(N=-1)\pm(P)\pm(m)\pm(qjik=-1))/t}$
$+({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$
$=\pm B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=-1))/t}+({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=4)\pm(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$
$=(1-\eta^2)[x_0\pm\mathbf{D}_0]^{K(Z\pm(S=2)+(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=-1))/t}$
$=(1-\eta^2)\{(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)+(\mathbf{N=-1})\pm(P=-1)\pm(m)\pm(qjik=-1))/t}$;

3.5.2, one-variable quadratic first-order calculus equation (K=+1,0,-1),(N=±0,1);

Power function (time series) factor(S=2),(N=±0,1),(P=±0,1).{q}={$q_{jik=}$±0,1}, integral means to increase one order:

(3.5.2)
$\{X\pm({}^{2}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik+1))/t}$
$=\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$
$\pm B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik=+1))/t}$
$+\underline{({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+0)\pm(m)\pm(qjik=+1))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik=0))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(\mathbf{N=\pm0,1})\pm(P=+1)\pm(m)\pm(qjik=0))/t}$;

Or add a first-order integral by a first-order derivative:

(3.5.3)
$\{X\pm({}^{2}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik+1))/t}$
$=\pm B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik-1))/t}$
$+({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=-1+1)\pm(m)\pm(qjik=-1+1))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$;

3.5.3, quadratic second-order calculus equation of one variable (K=+1,0,-1), (N=±0,1,2);

Power function (time series) factor (S=2),(N=±0,1,2),(P=+1).{q}={$q_{jik=+1}$}, integral means to increase one order:

(3.5.4)
$\{X\pm({}^{2}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(N=\pm0,1,2)\pm(P=+1)\pm(m)\pm(qjik+1))/t}$
$=\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=\pm0,1,2)\pm(P=-1)\pm(m)\pm(qjik=+1))/t}$
$\pm B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(N=\pm0,1,2))\pm(P=+1)\pm(m)\pm(qjik=+1))/t}$
$+\underline{({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=2)\pm(N=\pm0,1,2)\pm(P=+0)\pm(m)\pm(qjik=+1))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(N=\pm0,1,2)\pm(P=+1)\pm(m)\pm(qjik=0))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(N=\pm0,1,2)\pm(P=+1)\pm(m)\pm(qjik=0))/t}$;

Or add a first-order integral by a first-order derivative:

(3.5.5)
$\{X\pm({}^{2}\sqrt{\mathbf{D}})\}^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik+1))/t}$
$=\pm B({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=+1)\pm(m)\pm(qjik-1))/t}$
$+({}^{S}\sqrt{\mathbf{D}})^{K(Z\pm(S=2)\pm(\mathbf{N=-1+1})\pm(P=-1+1)\pm(m)\pm(qjik=-1+1))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(Z\pm(S=2)\pm(\mathbf{N=0})\pm(P=0)\pm(m)\pm(qjik=0))/t}$;

Among them: the various combinations of the term order of the calculus equation represent "group combination .{q}={q_{jik}}", the elements and equations are represented by {} symbols, and the power function is written as(S=2),(N=±0,1,2),(P=±0,1,2).{q}={q_{jik}=±0,1,2}; (m) definite integral element variation range; {q_{jik}} each element is generated as a triple Yuan as a 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 combination term of the group recovers and becomes the original function (zero-order calculus equation).

Finding root elements: No matter the roots of the expansion type, convergence type, or neutral calculus equation, the discrete type (original function, zero-order calculus equation) calculation can still be restored, the same as the above [Example 5]:

3.6. 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 into relative symmetry$(x^2=(1-\eta^2)x_0^2=(1-\eta)x_0\cdot(1+\eta)x_0)$, 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 by 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=+1), 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 $(1-\eta^2)^{K(Z-(S=2)+(qjik))/t}$(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 traditional one-dimensional cubic equation $(S=q\in q_{jik}=3)$adopts the Veda theorem and discriminant to deal with, the formula is cumbersome and it is difficult to meet the calculation requirements. In particular, in 1202 Pebonacci's "Book of Calculations" "Each term is a sequence of the sum of the first two terms" has become an important mathematical problem. Here, they are combined with the "group of the calculus equation of the generator of the triplet". "Establish a connection, through the central zero point symmetry and the principle of relativity, make the central zero point circle logarithmic equation composed of "each factor is the sum of the first two factors, and has the symmetry of the central zero point", become arbitrary The general solution formula of high-order calculus to find the root solution, and further understand the mystery of the "Fibonacci sequence" of the special case of triples.

Define the generator of the triple as $\{q_{jik}\}$, which means that all elements can be combined with "0-0, 1-1, 2-2, 3-3". Features of three-element combination: (S=Σ(q=3)q=3), (N=±0,1,2), combination form (qjik=0,1,2,3); $\{q\}\in\{q_{jik}\}$, which means that the space where the calculus equation variable is greater than$\{q\}\geq 4$ are all constricted in the low-dimensional three-dimensional space. This is what people often say: there is an integer space between four dimensions and three dimensions, namely $(S=q=q_{jik}=3)$.

4.1, the zero-order equation of three-tuple generator, one-variable cubic calculus

(A), the one-dimensional cubic equation of the generator of the three-tuple

Features: (q=3),(N=±0),(qjik=0,1,2,3);

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 $\mathbf{D}_0$;

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), $(1-\eta^2)=(x_{qjik}/\mathbf{D}_0)=1$; belongs to (K=±0) discrete statistics;

(2), $(1-\eta^2)=(x_{qjik}/\mathbf{D}_0)\leq 1$; belongs to (K=±0) convergence entangled calculation;

(3),$(1-\eta^2)=(x_{qjik}/\mathbf{D}_0)\geq 1$; belongs to (K=±0) diffusive entanglement calculation;

(4), Coefficient distribution: 1:3:3:1; sum $\{2\}^3=8$;

(4.1.1) $$x^3\pm\mathbf{B}x^2+\mathbf{C}x\pm\mathbf{D}$$
$$=x^3\pm 3x^2+3x\pm\mathbf{D}$$
$$=\{(1-\eta^2)(x_0\pm\mathbf{D}_0)\}^3$$
$$=\{(1-\eta^2)(0,2)(\mathbf{D}_0)\}^3;$$

(4.1..2) $$0\leq(1-\eta^2)=[(\sqrt[3]{x_1x_2x_3})/\mathbf{D}_0]^3\leq 1;$$

(B) 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) $(x_0\pm\sqrt{\mathbf{D}_0})^3=[(1-\eta^2)\cdot\{0\leftrightarrow 2\}\cdot\mathbf{D_0}]^3$;

(C). It satisfies the symmetry balance of the zero point of the circle logarithm center, and finds the root by (1-ηH2)D0.

(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) $x_1=(1-\eta_{H1})\mathbf{D}_0$; $x_2=(1-\eta_{H2})\mathbf{D}_0$; $x_3=(1+\eta_{H3})\mathbf{D}_0$;

$(S=q\in q_{jik}=3)$ means that the space when $\{q\}\geq 4$ is constricted in the low-dimensional three-dimensional space.

4.2. Three-tuple generators, three-dimensional first-order and second-order calculus equations (S=3), (N=±0,1,2),(q_{jik}=0,1,2,3);

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(±(S=3)±(N=0,1,2)±(m=ab)±(q=0,1,2,3)/t; (S=3) element The number, (±N=0,1,2) calculus order has zero order, first order and second order; (P=0,1,2) the order of combination items increases or decreases according to the order value; {q=(0, 1,2,3)} element (S+1) combination form; (±m=a to b) variable element activity range, called definite integral.

Features: (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 combination 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 abbreviation K(Z±(S=3)±(N=±0,1,2)/t;

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)

$(1-\eta^2)^3=\{(\sqrt[S]{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(N=\pm0,1,2)\pm(qjik=3)/t}=\{0 \text{ to } 1\}$;

$S=\Sigma_{(S\pm q)}\{q_{jik}\}$: indicates that any high-order $\{q\geq 4\}$ calculus equation belongs (contracted) to the low-dimensional triplet generator, and then.

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)∈$\{q_{jik}\}$; 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:$(1-\eta^2)^3=(\sqrt[3]{D}/D_0)=(\sqrt[3]{2184}/14)^3=2184/2744=0.795920\leq 1$; it belongs to entangled calculation.

(5.1.1)

$$(x\pm\sqrt[3]{2184})^3=x^3\pm 42x^2+42x\pm(\sqrt[3]{2184})^3$$
$$=x^3\pm 3\cdot 14x^2+3\cdot 14x\pm 2184$$
$$=(1-\eta^2)^3[x_0^3\pm 3\cdot 14x_0^2+3\cdot 196x_0\pm 2744]$$
$$=(1-\eta^2)^3(x_0\pm 14)^3$$
$$=(1-\eta^2)^3\{0,2\}^3 14^3;$$

Three calculation results:

$$\{x-\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\}\cdot 14]^3=(1-\eta^2)\cdot 0;$$

$$\{x+\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\}\cdot 14]^2=(1-\eta^2)\cdot 8\cdot 2024=16192;$$

$$\{x\pm\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0,2\}\cdot 14]^2=(1-\eta^2)\cdot(0,8)\cdot 2024=(0,16192);$$

Solve the root: According to the average value $\mathbf{B}\cdot\mathbf{D}_0=14\cdot 3=42$ 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 $(1/2)^2(1-\eta_H^2)B=(1/2)^2(2184/2744)\cdot 42=8/42$;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·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): $\mathbf{D}=8\cdot 13\cdot 21=2184$;

Verification (2): $(1-\eta^2)\cdot[14^3-3\cdot 14)^3+3\cdot 14^3-14^3=0$;

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)
$(x\pm^3\sqrt{2744})^3=x^3\pm 42x^2+42x\pm(^3\sqrt{2744})^3$
$=x^3\pm 3\cdot 14x^2+3\cdot 14x\pm 2744$
$=[x_0^3\pm 3\cdot 14x_0^2+3\cdot 196x_0\pm 2744]$
$=(x_0\pm 14)^3$
$=\{0,2\}^3 14^3$;

(5.2.2) $\{x-\sqrt{\mathbf{D}}\}^3=\{0\}\cdot 14]^3=0$;

(5.2.3) $\{x+\sqrt{\mathbf{D}}\}^3=[\{2\}\cdot 14]^3=8\cdot 2024=16192$;

(5.2.4)
$\{x\pm\sqrt{\mathbf{D}}\}^3=[\{2\leftrightarrow 0\}\cdot 14]^3=(8\cdot 2744\leftrightarrow 0)=(21952\leftrightarrow 0)$;
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)
$(x\pm^3\sqrt{2024})^3=x^3\pm 42x^2+42x\pm(^3\sqrt{2024})^3$
$=x^3\pm 3\cdot 14x^2+3\cdot 14x\pm 2024$
$=(1-\eta^2)^3[x_0^3\pm 3\cdot 14x_0^2+3\cdot 196x_0\pm 2744]$
$=(1-\eta^2)^3(x_0\pm 14)^3$
$=(1-\eta^2)^3\{0,2\}^3 14^3$;

(5.3.2) $\{x-\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{0\}\cdot 14]^3=0$;

(5.3.3)
$\{x+\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\}\cdot 14]^3=8\cdot 2024=16192$;

(5.3.4)
$\{x\pm\sqrt{\mathbf{D}}\}^3=[(1-\eta^2)\cdot\{2\to 0\}\cdot 14]^3=(8\cdot 2024\to 0)=(16192\to 0)$; 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)
$(x\pm^3\sqrt{2024})^{(-3)}=x^{(-3)}\pm 42x^{(-2)}+42x^{(-1)}\pm(^3\sqrt{16192})^{(-3)}$
$=x^{(-3)}\pm 3\cdot 14x^{(-2)}+3\cdot 14x^{(-1)}\pm(^3\sqrt{16192})^{(-3)}$
$=(1-\eta^2)^{(-3)}[x_0^{(-3)}\pm 3\cdot 14x_0^{(-3)}+3\cdot 196x_0^{(-3)}\pm 16192]^{(-3)}$
$=(1-\eta^2)^{(-3)}(x_0\pm 14)^{(-3)}$
$=(1-\eta^2)^{(-3)}\{0,2\}^{(-3)}14^{(-3)}$;

(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)
$\{x\pm\sqrt{\mathbf{D}}\}^{(-3)}=[(1-\eta^2)\cdot\{2\to 0\}\cdot 14]^{(-3)}=(0\to 8\cdot 2024)=(0\to 16192)$;
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)
$0\le(1-\eta^2)^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=1))/t}\le 1$;
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 $[\underline{A(^S\sqrt{x})}, \underline{(^3\sqrt{\mathbf{D}})}]^{K(Z\pm(S=3)\pm(\mathbf{N=1})\pm(P=1)\pm(m)\pm(qjik=0))/t}$ 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:
$(1-\eta^2)^{K(Z\pm(S=3)\pm(N=2)\pm(P=2)\pm(m)\pm(qjik=3))/t}=\{(^S\sqrt{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=3)\pm(N=2)\pm(P=2)\pm(m)\pm(qjik=2))/t}\le 1$;

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)
$\{X\pm(^3\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}$
$=\underline{A(^3\sqrt{\mathbf{D}}}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)-(qjik=0))/t}\pm\underline{B(^S\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=1))/t}+\mathbf{C}(^S\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm\underline{(^3\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)+(qjik=0))/t}=$
【$+C(^S\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm(^3\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)+(qjik=2))/t}$】
$=\{x\pm(^{K3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik))/t}$;
(5.6.3)
$0\le(1-\eta^2)^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=2))/t}\le 1$;
Combine and write the complete formula of second-order calculus (±N=0,1,2,3)
(5.6.4) $\{X\pm(^3\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}$
$=\underline{A(^3\sqrt{\mathbf{D}}}^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(N=0,1,2,3)\pm(m)-(qjik=0))/t}\pm\underline{B(^S\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=1))/t}+\mathbf{C}(^S\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm\underline{(^3\sqrt{\mathbf{D}})}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)+(qjik=0))/t}$
$=$【$+\mathbf{C}(^S\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(N=0,1,2,3\pm(P=2)\pm(m)\pm(qjik=2))/t}\pm(^3\sqrt{\mathbf{D}})^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)+(qjik=2))/t}$】$=\{x\pm(^{K3}\sqrt{\mathbf{D}})\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik))/t}=\{(1-\eta^2)[x_0\pm\mathbf{D}_0]\}^{K(\pm(S=3)\pm(N=0,1,2,3)\pm(P=2)\pm(m)\pm(qjik))/t}=\{(1-\eta^2)\cdot(0,2)\cdot\{\mathbf{D}_0\}^{K(\pm(S=3)\pm(N=0,1,2,3))\pm(P=2)\pm(m)\pm(qjik))/t}$;

In the formula:$[[\underline{A(^3\sqrt{x})}, \underline{(^3\sqrt{\mathbf{D}})}]^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=0))/t}$; $[\underline{B(^3\sqrt{\mathbf{x}})}, \underline{(^3\sqrt{\mathbf{D}})}]^{K(\pm(S=3)\pm(\mathbf{N=-2})\pm(P=2)\pm(m)\pm(qjik=1))/t}$ 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:"◎<u>（0）</u>◎◎" 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 of the center zero.
Satisfy the logarithmic factor of the circle:
(5.5.5) $(\eta_H)=\mathbf{\Sigma}_{(q=+1+2)}(+\eta_H)+\mathbf{\Sigma}_{(q=-3)}(-\eta_H)=0$;
Calculation of symmetry factor: (B=3·D0)
(5.5.6)
$(1-\eta_H^2)\mathbf{D}_0=[\Sigma(i=+s)(1-\eta_{H(1+2)}^2)+\Sigma(i=-s)(1-\eta_{H(3)}^2)]\mathbf{D}_0$
$=[(1-\eta_1^2)+(1-\eta_2^2)]-[(1+\eta_3^2)]\mathbf{D}_0$
(5.5.7) $x_1=(1-\eta_{h1}^2)\ \mathbf{D_0}$;
$x_2=(1-\eta_{h2}^2)\ \mathbf{D_0}$;
$x_3=(1+\eta_{h3}^2)\mathbf{D_0}$;

(B) When: "◎<u>（◎）</u>◎"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

$A(S\sqrt{D})K(Z\pm(S=3)\pm(N=1)\pm(P-1)\pm(m)\pm(qjik))/t$ 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: $\underline{A({}^{S}\sqrt{\mathbf{D}})}^{K(Z\pm(S=3)\pm(N=1)\pm(P-1)\pm(m)\pm(qjik))/t}$ (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); $\{\mathbf{D}_0\}$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 $\{{}^3\sqrt{\mathbf{D}}\}=\{{}^3\sqrt{D_1D_2D_3}\}$.

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:$(1-\eta^2)^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}=\{({}^S\sqrt{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}$, derivative delete, integral increase $\{({}^S\sqrt{\mathbf{D}})/\mathbf{D}_0\}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P=0,1,2))\pm(m)\pm(qjik))/t}$;

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

$({}^S\sqrt{\mathbf{D}})^0$; $({}^4\sqrt{\mathbf{D}})^1$; $({}^4\sqrt{\mathbf{D}})^2$; $({}^4\sqrt{\mathbf{D}})^3$

(6.1.1) $\{x\pm({}^4\sqrt{\mathbf{D}})\}^4=x^4\pm bx^3+cx^2\pm dx+D=[\{0,2\}\cdot({}^4\sqrt{\mathbf{D}})]^4$;

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): $2\cdot 8\cdot 15\cdot 19=4560$;

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: $(1-\eta^2)^3=(^3\sqrt{2024}/14)^3=2024/2744=0.73761\leq 1$;

$\eta^2=(2744-2024)/2744=0.26239$;

(6.3.1) $\{X\pm(^4\sqrt{\mathbf{D}})\}^{K(Z\pm(S=4)\pm(N=0,12)\pm(P)\pm(M)\pm(qjik))/t}$
$=\underline{a(^S\sqrt{\mathbf{x}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=0))/t}\pm b(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=1))/t}+c(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=2))/t}$
$\pm d(^S\sqrt{\mathbf{x}})=(^4\sqrt{4560})]^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=3))/t}$
$+\underline{(^4\sqrt{\mathbf{D}})}^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=+4))/t}$
$=【\pm b(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik=1))/t}$
$+c(^S\sqrt{\mathbf{x}})^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik=2))/t}\pm(^4\sqrt{4560})^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik=3))/t}】$
$=\{x\pm(^{KS}\sqrt{4560})\}^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot[x_0\pm 11]\}^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik))/t}$
$=\{(1-\eta^2)\cdot\{(0,2)\cdot\{11\}\}^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(qjik))/t}$;

(6.3.2) $0\leq(1-\eta^2)^{K(Z\pm(S=4)\pm(N=0,1)\pm(P)\pm(M)\pm(q))/t}\leq 1$;

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) $0\leq(1-\eta^2)^{K(Z\pm(S=4)\pm(N=0,1,2)\pm(P)\pm(M)\pm(qjik))/t}\leq 1$;

(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 $\underline{[B(^S\sqrt{x}),(^4\sqrt{D})]}^{K(Z\pm(S=4)\pm(N=2)\pm(P=2)\pm(M)\pm(q=1,3))/t}$;

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 $x_{(S=4)}=(^{K4}\sqrt{x})=(^{K4}\sqrt{x_1x_2x_3x_4})$; 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±(S=5)±(N=0,1,2)±(P)±(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±(S=-5)±(N=0,1,2)±(P)±(q=q_{jik}))/t;

Discriminant: $(1-\eta^2)=[\mathbf{D}/\mathbf{D}_0]^{(5)}=(7962624/248832)=32\geq1$;

Or：
$(1-\eta^2)^{(-5)}=[\mathbf{D}/\mathbf{D}_0]^{(-5)}=(7962624/248832)^{(-1)}=32^{(-1)}\leq 1$;

Discrimination result: (K=-1), it belongs to the diffusive entanglement 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: $\{2\}^5=32$;

Solution: The calculation result of the diffusive entangled one-variable quintic equation.

(A), one-variable quintic equation: $(1-\eta^2)\geq 1$;Or$(1-\eta^2)^{(-1)}\leq 1$;

(7.3.1)

$\{x\pm\sqrt{\mathbf{D}}\}^{(-5)}=Ax^{(-5)}+Bx^{(-4)}+Cx^{(-3)}+Dx^{(-2)}+Ex^{(-1)}+\mathbf{D}$

$=x^5\pm 60x^4+1440x^3\pm 17280x^2+103680x^1\pm 7962624$

$=(1-\eta^2)^{(-5)}\cdot[x^{(-5)}\pm 5\cdot 12\cdot x^{(-4)}+10\cdot 12^2\cdot x^{(-3)}\pm 10\cdot 12^3\cdot x^{(-2)}+5\cdot 12^4\cdot x^{(-1)}\pm 12^{(-5)}]^{(-1)}$

$=[(1-\eta^2)\cdot\{x_0\pm 12\}]^{(-5)}$

$=[(1-\eta^2)\cdot\{0,2\}\cdot\{12\}]^{(-5)}$;

(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)

$\{x+\sqrt{\mathbf{D}}\}^{(-5)}=x^{(-5)}+60^{(-1)}x^{(-4)}+1440^{(-1)}x^{(-3)}+17280^{(-1)}x^{(-2)}+103680^{(-1)}x^{(-1)}+7962624$

$=[(1-\eta^2)\cdot\{2\}\cdot\{12\}]^{(-5)}$;

$=[(1-\eta^2)\cdot 32\cdot 12]^{(-5)}=(1-\eta^2)^{(-5)}\cdot 7962624$;

(3), (representing the periodic diffusion and expansion of the five-dimensional-six-dimensional vortex space)

(7.3.4)

$\{x\pm\sqrt{\mathbf{D}}\}^5=x^5\pm 60x^4+1440x^3\pm 17280x^2+103680x^1\pm 79002$

$=[(1-\eta^2)\cdot\{0\rightarrow 2\}\cdot\{x_0\pm 12\}]^5$

$=(1-\eta^2)\cdot[0\rightarrow\{32\cdot 12^5\}]$

$=(1-\eta^2)\cdot[0\rightarrow\{7962624]$;

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:$(1-\eta^2)B=(79002/248832)\cdot 60=0.317491=19/60$;

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): $\mathbf{D}=(3\cdot 7\cdot 9\cdot 7\cdot 19)=79002$(满足)；

$\mathbf{D}_0=(1/5)(3+7+9+7+19)=12$;(满足)

Verification (2): $\{x-\sqrt{\mathbf{D}}\}^5=[(1-\eta^2)\{0\}\{x_0\pm 12\}]^5$

$=(1-\eta^2)[12^5-5\cdot 12^5+10\cdot 12^5-10\cdot 12^5+5\cdot 12^5-79002]$

$=0$；(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 $(\eta^2)=19/65$ is not suitable for the three elements, and there is a balance and symmetry of the tentative circle logarithmic factor. Therefore, multiple trials$(\eta^2)=17/65$ are close to reality.

7.5. [Example 4]: {◎◎(x3)◎◎}Type

Features: Entangled convergence(K=+1),$(1-\eta^2)^5\leq 1$: 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:

$(1-\eta^2)^5=(D/D_0)^5=196560/371291=0.52940\leq 1$; It belongs to the convergent entangled calculation.

(A), the calculation of the one-variable quintic equation $B=(S=5)\cdot D_0=5\cdot 13=65$; $(1-\eta^2)5\leq 1$:

(7.5.1)

$\{x\pm\sqrt{\mathbf{D}}\}^5=Ax^5+Bx^4+Cx^3+Dx^2+Ex^1+\mathbf{D}$

$=x^5\pm 65x^4+1690x^3\pm 21970x^2+142805x^1\pm 196560$

$=(1-\eta^2)\cdot[13^5\pm\underline{5\cdot 13}\cdot x^4+\underline{10\cdot 13^2}\cdot x^3\pm\underline{10\cdot 13^3}\cdot x^2+\underline{5\cdot 13^4}\cdot x^1\pm 1$

3^3]
=[(1-η^2)·{x_0±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-√**D**}^{5}=x^5±65x^4+1690x^3±21970x^2+142805x^1±196560
=[(1-η^2)·{0}·{13}]^5=0;

（**2**）, (indicating precession, vector addition)

(7.5.3)
{x+√**D**}^{5}=x^5±65x^4+1690x^3±21970x^2+142805x^1±196560
=[(1-η^2)·{2}·{13}]^5
=32·13^5=6289920;

（**3**）, (indicating balance, convergence vortex, radiation)

(7.5.4)
{x+√**D**}^{5}=x^5±65x^4+1690x^3±21970x^2+142805x^1±196560
=(1-η^2)·[{(2→0)·{13}]^5
=(1-η^2)·(6289920→0);

(C), Solving: the roots of the quintic equation of one variable

The arithmetic sum of all elements B=(5)·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±13/13)]-[(1+5/13)+(1+8/13)]·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±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)、 **D**=(5·8·13·18·21)=196560(满足);
$\mathbf{D}_0$=(1/5)(5+8+13+18+21)=13;(satisfied)

Verification(2)、 {x-√**D**}^{5}=[(1-η^2){0}{x_0±13}]^5
=(1-η^2)[13^5-5·13·13^4+10·13^2·13^3-10·13^3·13^2+5·13^4·13^1-13^5]=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→$\{1/2\}^2$·35/65=9/65→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: $\{x\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=0,1,2)\pm(P)\pm(q=qjik))/t}$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: $\{x\}^{K(0)/t}=\{^{K5}\sqrt{(x_1x_2\ldots x_5)}\}=\{^{K5}\sqrt{\mathbf{D}}\}]^{K(\pm(S=5)\pm(N=0,1,2)\pm(q=0)/t}$; 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 $\mathbf{B}$); boundary and $\mathbf{D}$, 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) $$\{x+(^5\sqrt{\mathbf{D}})\}^{K(\pm(S=5)\pm(\mathbf{N=0,1,2})\pm(q)/t}=$$

$[(1-\eta^2)\cdot\{2\}\{\mathbf{D_0}\}]^{K(\pm(S=5)\pm(N=0,1,2)\pm(q)/t}$;

(3). Representing vector superposition and rotation, performing five-dimensional-six-dimensional vortex motion:

(8.1.4) $\{x\pm(^5\sqrt{\mathbf{D}})\}^{K(\pm(S=5)\pm(N=0,1,2)\pm(q)/t}=[(1-\eta^2)\cdot\{0,2\}\cdot\{\mathbf{D_0}\}]^{K(\pm(S=5)\pm(N=0,1,2)\pm(q)/t}$;

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)

$(\eta_H)=\boldsymbol{\Sigma}_{(q=+1+2)}(+\eta_H)+\boldsymbol{\Sigma}_{(q=-3)}(-\eta_H)=0$;

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) $0\le(1-\eta^2)^{K(Z\pm(S=5)\pm(N=0)\pm(P)\pm(qjik))/t}\le1$;

(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) $0\le(1-\eta^2)^{K(Z\pm(S=5))\pm(N=1)\pm(P)\pm(m)\pm(qjik))/t}\le1$;

(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

$[A(^S\sqrt{x}),A(^S\sqrt{D})]^{K(Z\pm(S=5)\pm(N=1)\pm(P=1)\pm(m)\pm(q=0))/t}$;

Second-order calculus equation

$[A(^S\sqrt{x}),A(^S\sqrt{D})]^{K(Z\pm(S=5)\pm(N=2)\pm(P=2)\pm(m)\pm(q=0))/t}$

$\pm[B(^S\sqrt{\mathbf{x}}),B(^S\sqrt{D})]^{K(Z\pm(S=5)\pm(N=2)\pm(P=2)\pm(M)\pm(q=1))/t}$;

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}∈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: $(1/C(S\pm p))^K=((p+1)(p-0)...3\cdot 2\cdot 1)!/[(S-0)(S-1)...(S-p)!])^K$, the content is similar to the traditional $\mathbf{C}|^{\mathbf{p}}_{\mathbf{s}}$ 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) $(1-\eta^2)^{K(1)/t}=(1-\eta^2)^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$ $=\{(^S\sqrt{x})/(\mathbf{D}_0)\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$ $=\{0\text{ 到 }1\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

(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) $\{X\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}=\underline{ax}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}\pm\underline{bX}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=1))/t}+C\underline{X}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=2))/t}\pm\ldots+LX^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}+\ldots\pm\underline{\mathbf{D}}=(1/C_{(S\pm0)})^K X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=0))/t}$ $\pm(1/C_{(S\pm1)})^K X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qji=-1))/t}\mathbf{D}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+1))/t}+(1/C_{(S\pm2)})^K X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=-2))/t}\mathbf{D}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+2))/t}\pm\ldots$ $+(1/C_{(S\pm p)})^K\cdot X^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=-p))/t}\mathbf{D}_0{}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+p))/t}\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik=+0))/t}$ $=\{x\pm(^S\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$ $=[(1-\eta^2)\{x_0\pm\mathbf{D}_0\}]^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$ $=\{(1-\eta^2)\cdot(0,2)\cdot(\mathbf{D}_0)\}^{K(Z\pm S\pm(N=J)\pm(P)\pm(m)\pm(qjik))/t}$;

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） $\{X\pm({}^{KS}\sqrt{\mathbf{D}})\}^{K(Z\pm S\pm N\pm q)/t}=[(1-\eta^2)\cdot\{X_0\pm D_0\}]^{K(Z\pm S\pm N\pm q)/t}$;

（10.1.2） $(1-\eta^2)^{K(Z\pm S\pm N\pm q)/t}=\{0\text{ 到 }1\}^{K(Z\pm S\pm N\pm q)/t}$;

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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