Introduction to Six-level Symmetrical Multidimensional Mathematics

Hu Jun

Abstract: the concept of number is the most basic of mathematics. The division of numbers starts from natural numbers and then to the present complex numbers. Although there are quaternions, they are also used in some fields. But the division of numbers seems to have come to an end. Can not continue to divide or our division direction is wrong. There are more and more ways to understand the world, and the means to observe the universe and basic particles are getting deeper and more complicated, so the problems are becoming more and more complex, and the mathematical tools are becoming more and more difficult to understand. Is there a simpler mathematical method to deploy these mathematical details, to make mathematics a simple image, to use mathematics to describe the material world, to make the invisible part of the world easy to understand! Let the mysterious dark state (dark matter, dark energy) not mysterious.

Keywords: six-level, multidimensional mathematics, symmetry, coordinate system, absolute number domain, relative number domain

Introduction:

If we want to have a breakthrough in mathematical physics, we must dig and change deeply on the basis of mathematics and geometry. Only in this way can we establish an updated and higher mathematical system and thus become a mathematical tool for a higher physical system. Only the breakthrough of foundation, can have the new development of superstructure. Our development must first change the most basic and primitive things of our mathematics. This is the division of numbers and the base axis.

The dimension division of numbers: our present numbers are roughly divided into. integers, fractions, rational numbers, irrational numbers; because of the appearance of imaginary numbers, it is summed up into a set of real numbers, and imaginary numbers plus real numbers form complex domain. So is the plural the end of the number? No! In this paper, the number is divided into three parts: the number in the opposite direction, the number in the hierarchy, the compound number and the number in the dimension.

1. six-level symmetric multidimensional axes[Hierarchy]

1.0. Six-level symmetric multidimensional finite number axis

The number on the traditional number axis is infinite, and the number on the number axis of this theory is limited at most 3^{46656} Second power. The number axis here has a 'two directions', and the traditional number axis has only one direction.

1.1. Traditional number axes

As shown in Figure 1|The red starting point is 0, the arrow direction is + (positive), and the left side of 0 is negative.

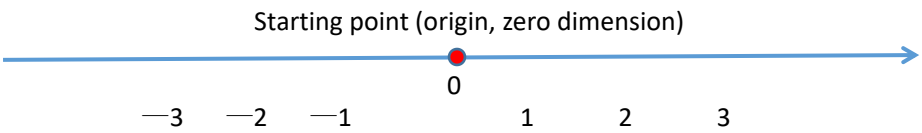


Fig .1| the traditional number axis has only one origin, which may be the center of the number axis; the whole

number axis has no starting point, no end point, and is infinite.
And there is only one direction. The number on the number axis is independent and does not interfere with each other. The emergence, extinction and change of each number are not directly related to the other numbers on the number axis. In this paper, the traditional number axis is called the absolute one-dimensional axis, and the traditional rectangular coordinate system produced by the absolute one-dimensional axis is called the absolute plane coordinate system. The coordinate system produced by three vertical absolute number axes is called the absolute three-dimensional infinite coordinate system (without starting point and end point, the number is considered to be infinite).

The number axis of traditional mathematics has no direct observer and no clear frame of reference (only coordinate transformation). According to the inclusion principle [1] The traditional number axis has an observer and a frame of reference, and this frame of reference and the observer on the frame of reference are the people we apply these theories and the external environment (external conditions). But when we apply the number axis of traditional mathematics, in most cases we do not consider the observer, only when the accumulation of long-term changes in high number motion or motion, we consider the relativity of observer and frame of reference. Therefore, in most cases, observers are recessive, invisible observers are the basis of traditional theory.

Traditional real numbers and imaginary numbers are independent and can not be transformed into each other. the imaginary numbers and real numbers here in this paper can be transformed into each other under the different conditions of 'different reference frames, different observers', and the imaginary numbers have sizes and can be compared under the corresponding observation system conditions. In the view of the total observer, the imaginary number and the real number are relative.

1.2 Six-level, symmetrical, complex, multidimensional axes

1.2.1 one-dimensional superposition axis: the concrete form of six levels, symmetry, complex number and multidimensional axis

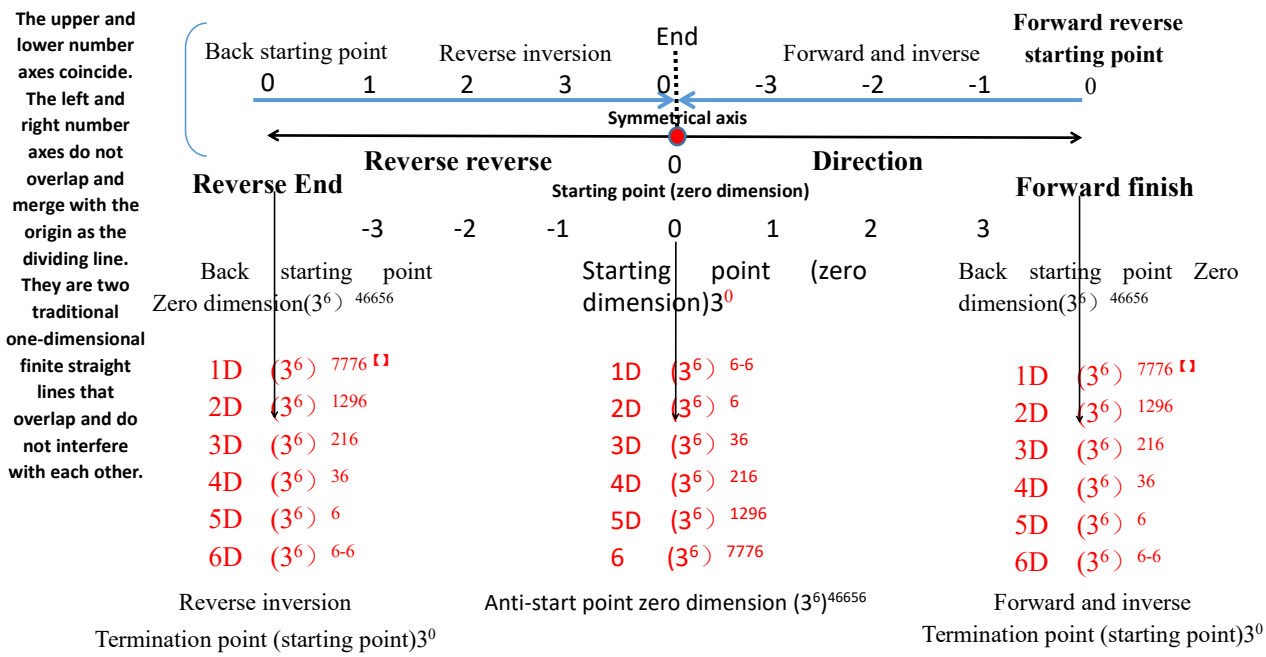


Figure 2| is a six-level, symmetrical, plural, and multidimensional number axis. The number axis has 8 dimensions, and each dimension has 6 levels. Each level has both forward and backward number axes. The forward and backward numbers are symmetrical. There are two symmetrical numbers inside each order, which are equal in magnitude and opposite in direction. The starting and ending points are also opposite at the same time. Because the number axis is a straight line, it belongs to a one-dimensional straight line according to the traditional dimension. 'forward' and 'forward inverse', 'reverse' and 'reverse inverse' can be 'coincident' and 'independent of each other'.

Defect of traditional number axis

It can be seen from the diagram that the black number axis removes the arrow at the reverse end, does

not consider the end point and the starting point, does not consider the finiteness of the number on the number axis, and does not consider the observer, which is the traditional number axis. The traditional number axis is a special form of six levels, symmetry, complex number and multidimensional number axis.

Application of traditional number axis in this paper

Taking the traditional number axis as the background number axis space of this paper, as a reference system of absolute invariant one-dimensional straight line relation, the observer in this traditional rigid absolute reference system is the absolute observer[1]。

The cis and inverse are mirror relations with the starting point as the symmetric point, and the relative total observer is the imaginary number and the real number relation. In this paper, when there is no special case, the default 'anterograde' is the real number domain and the reverse' is the imaginary number domain.

In the view of the general observer: there is no qualitative difference between the forward and the reverse, mirroring each other. Forward to the internal observer, can not directly observe the reverse and their own reverse. As a forward observer $\mathbf{G_a}$ Can directly observe the observation of the total observer, then the observer $\mathbf{G_a}$ by itself or by G original observe $\mathbf{G_a}$ The system has been upgraded.[Hierarchy]

There are two possibilities

1）Meet and destroy at the midpoint in the direction.

2）In the direction of the midpoint and arbitrary non-interference, non-interference.

The interior of 'anti' is mirror-like because of 'forward', and all 'forward' events are the same and entangled.

There are four possibilities for meeting at the starting point

1) number on the two axes meets and dies at the starting point.

2) fusion at the starting point at the same time.

3) do not interfere when the starting point meets

4)1),2),3) coexisting (total observer)

Composite relationship

The three relationships occur simultaneously.

2. The observer of the external part, in accordance with the opposite, at the same time at the starting point fusion, constitute a zero-dimensional, outside the starting point is independent.

The origin is a singular point, which may be produced or destroyed by a number at the origin, but the behavior of the number at the origin can not be predicted and there are uncertain factors, but in the view of the general observer. Harmony at the origin can predict its behavior or change, and is regularly found.

In the view of the general observer, the opposite is an independent entanglement; in the view of the internal observer, he is independent and does not have the existence of a mirror parallel image with which he is entangled.

The 'six-level complex symmetry number axis' is composed of two number axes with opposite directions, overlapping positions, and a common 0 point (origin). At the same time, both number axes have the same numerical end point, corresponding to the same numerical end The number $(3^6)^{7776}$ is at the two end points, and the numbers move in opposite directions as mirror images of each other.

The two axes are superimposed, non-interference and entanglement.

If a value on the number axis changes from zero, then there is the same change in the corresponding value on another number axis. This correspondence is called' origin numerical entanglement' for short' numerical

entanglement'.

At the other two endpoints of the number axis, at the same time in the direction of the starting zero point, two identical numerical changes are produced. This paper is called endpoint numerical entanglement.

So this number axis system has four numerical entanglement at the same time. At the same time, we see that numerical entanglement is divided into layers and dimensions.
The new number axis not only Multidimensional the traditional number axis, but also introduces the observer and reference system to combine the mathematical nature with the physical and chemical phenomena of reality.

1.3 Two-dimensional axis coordinate system

1.3.1 the center point is also the cis , inverse and inverse two-dimensional number axis of the symmetric point, the symmetric position is a point that does not need to consider the size and structure.

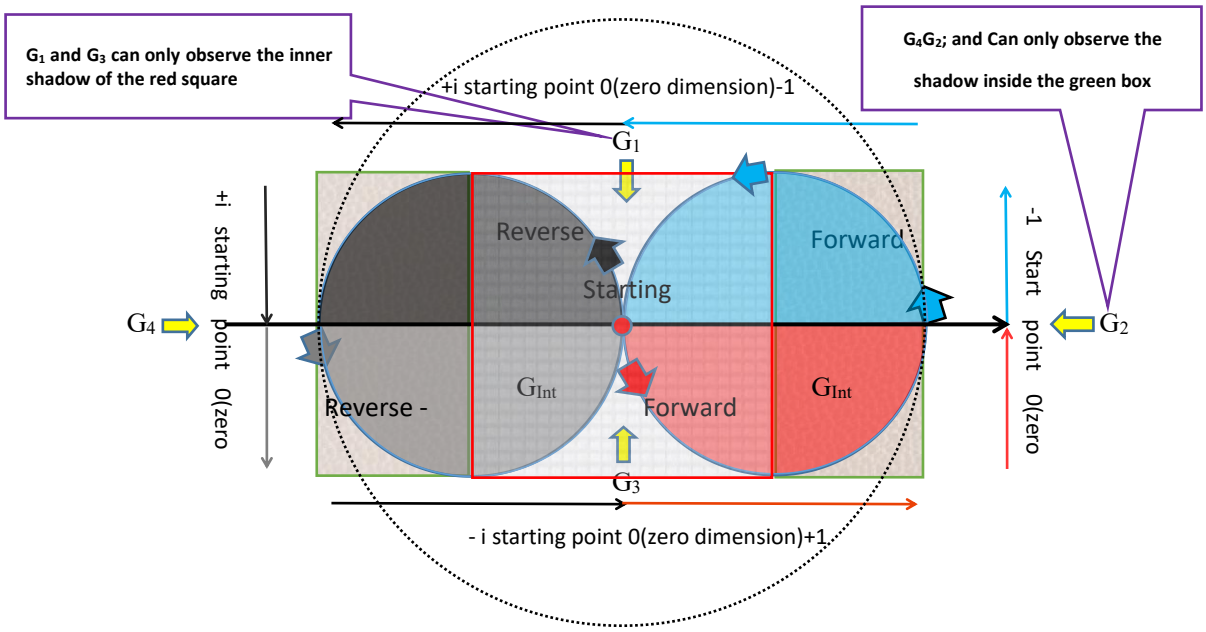


Figure 3| The default observer can observe the left and right spin ⊕↑ and ⊕↑↓ in front of him, G_n On behalf of the observer, the yellow arrow is the direction of observation.Different observers observe different directions. An observer on a plane, such as a total observer along one direction of the plane, observes that the motion of a number on the circumference of a two-dimensional plane is a one-way motion. But the observer inside the plane may observe a simple harmonic vibration, and the observer standing on the axis can only perceive the number passing through the perceptible position.And G_1、G_2、G_3、G_4, What is observed is the traditional number axis (indicating that our traditional number axis coordinate system reflects only a small part of the real world)。

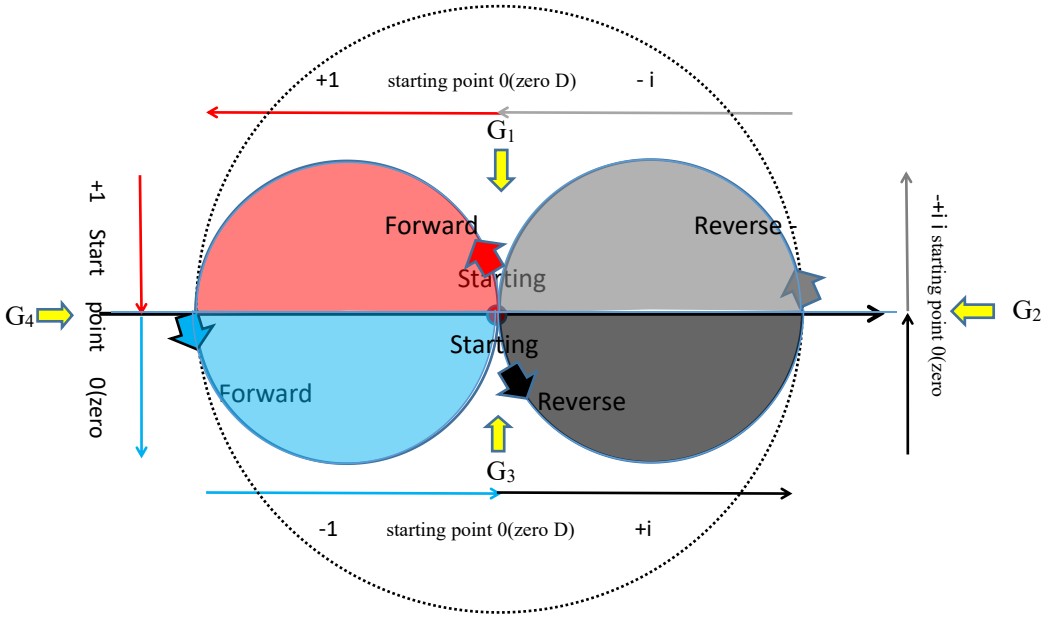
Coordinate code for this two-dimensional coordinate system: B_1

Fig .3| the red number axis through the starting point is the traditional number axis, the two-dimensional number axis is two equal symmetry circles through the symmetry point, the number on the circle is the two-dimensional number, the number on the circle is projected on the one-dimensional straight line, that is, the one-dimensional superposition number axis, only one observer G_n considered become Ordinary traditional number axis.

Two-dimensional straight line number axis, divided into pure virtual number axis, pure real number axis, and 'virtual, real' number mixed number axis.

1.3.2. The two-dimensional axis in the direction of 'clockwise, reverse and inverse', the symmetric

position is a point that does not need to consider size and structure.



Anti-default observer ⊕↑ and ⊕↑↓ spin

Figure 4| The original four observers are unchanged relative to the absolute coordinate system, the observed object is rotated 180⁰ The results of the observation.

Coordinate code B2

Because the observed object rotates 180% relative to the absolute coordinates⁰and the observer's position relative to the absolute coordinates remains the same at this time B relative₂And the observer on the coordinate system B the same₁The results of the observer on the coordinate system are different, and the upper and lower and left of the two circles are reversed. The direction observed by the four observers was counterclockwise.

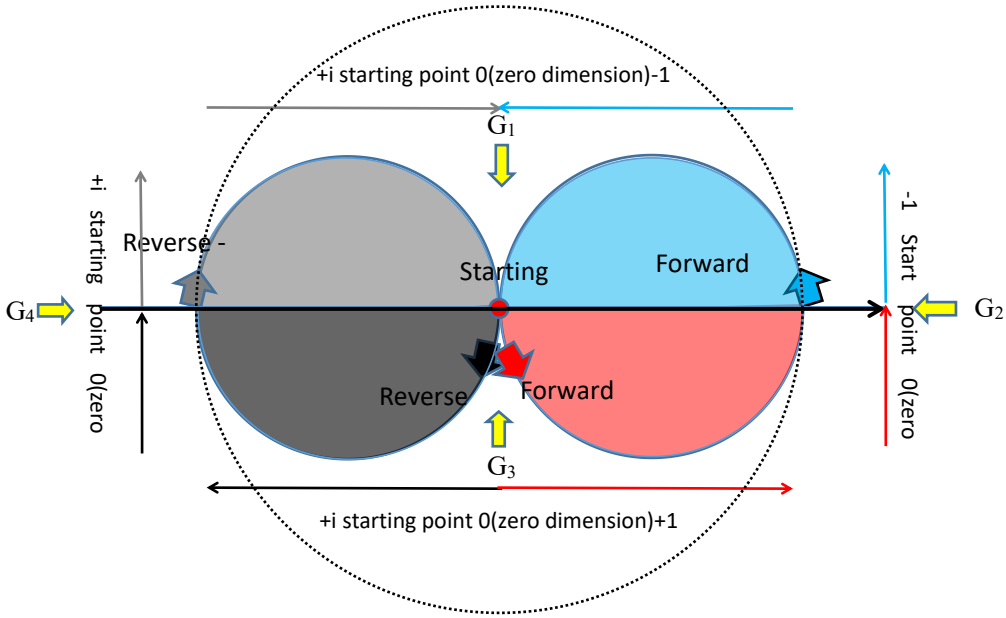


Fig .5| the original four observers are invariant to the absolute coordinate system,

It is equivalent to the observation result that the spin of the circle on the left side of the 'Figure 1' is 'changed' and the positions of the virtual negative and the virtual positive are 'exchanged'. At this time, G_1 is moving from both sides to the middle origin. G_3 is the opposite of G_1, radiating from the middle to both ends, and G_2 and G_4 are upward in the same direction.

Coordinate code B_3

Forward

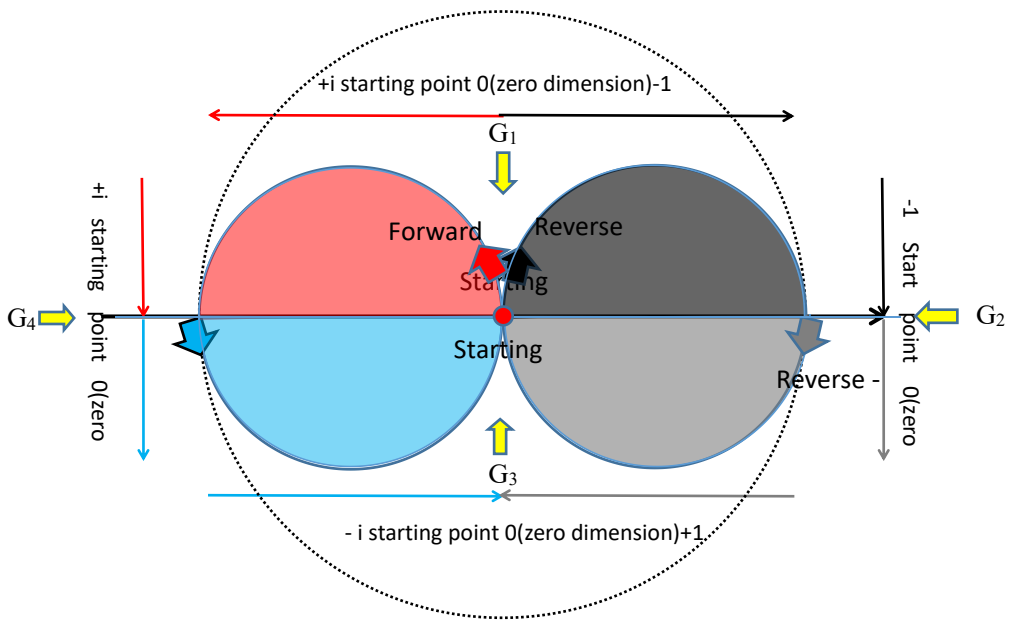


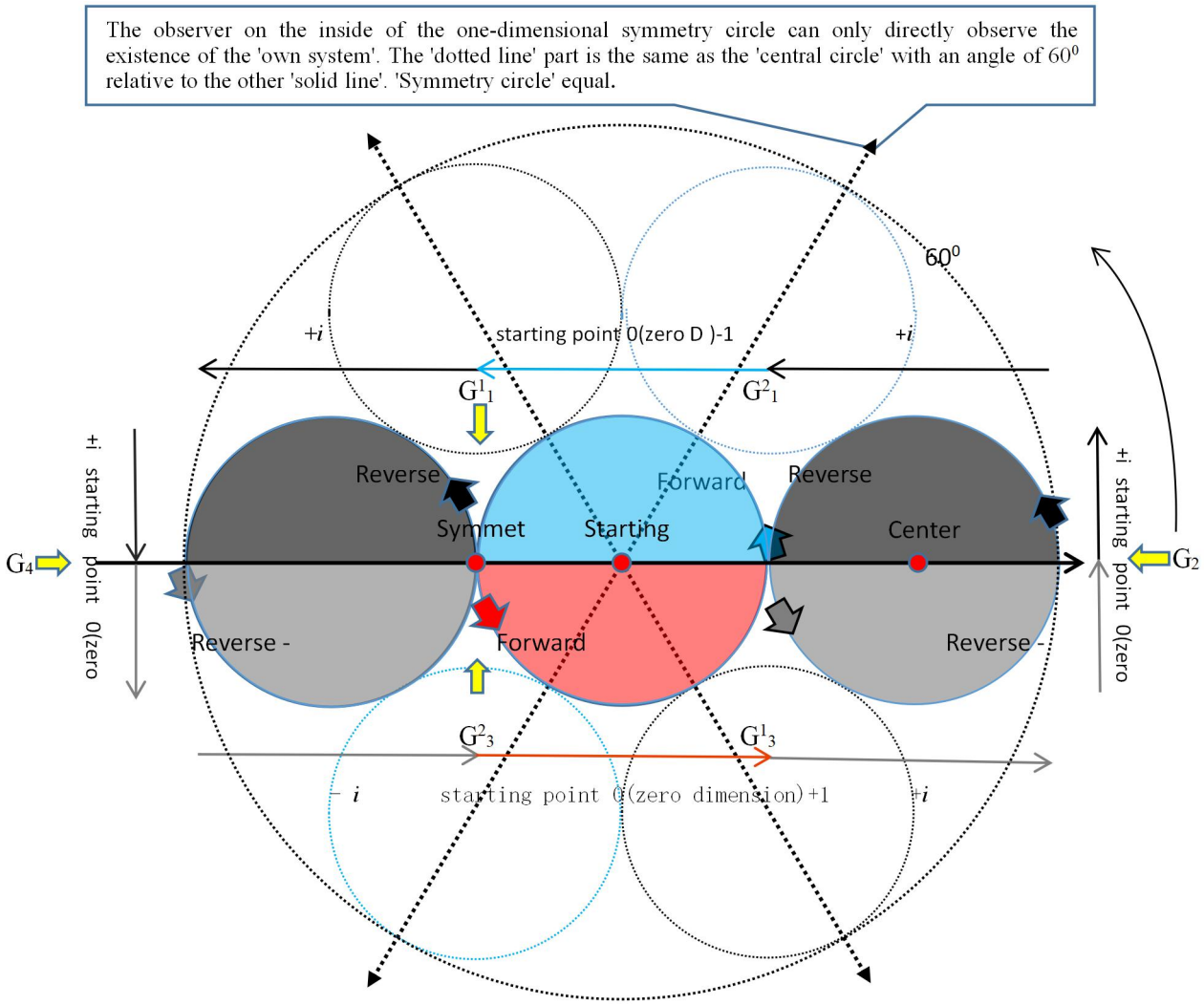
Figure 6 | Relative figure 1, the rotation is 180^0 counterclockwise, and the upper and lower positions of the imaginary semicircle on the right are reversed, and the spin direction is opposite. G_2 and G_4 have the same direction, and the direction is downward; G_1 radiates outward from the origin, and G_3 returns to the origin from both ends.

Coordinate code B_4

several other forms are not listed.

1.4.0 .Symmetry point must consider the coordinate system of the symmetrical coordinate structure of its size.[1~3]。

We only discuss the coordinate system in which the center circle is equal to the symmetric circle



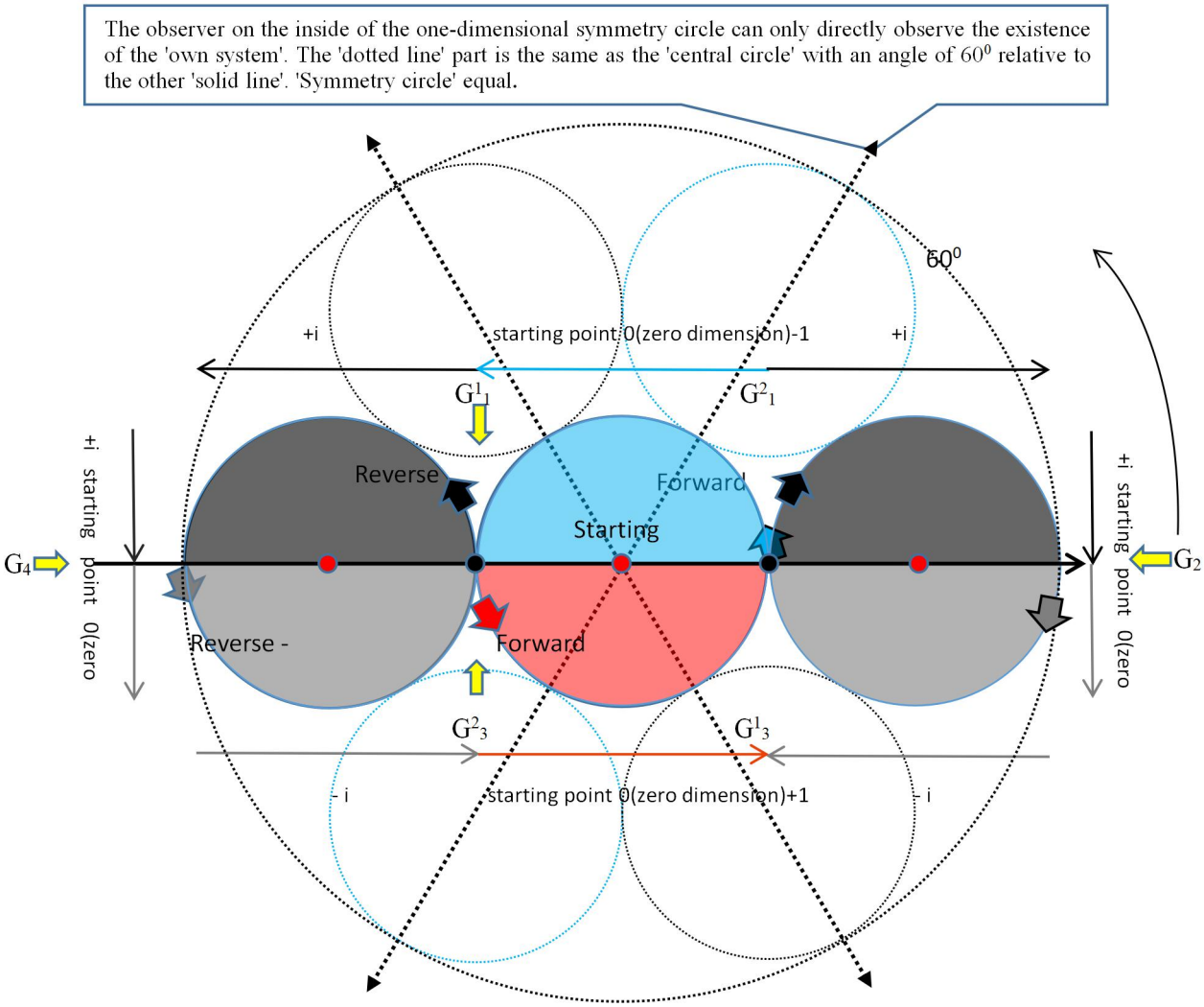
Coordinate code $S^a{}_1$

Above observer: The direction of the center circle is the same as $G^1{}_1$ and $G^2{}_1$; $G^1 1$ is the same as $G^2{}_1$ (left); $G^2{}_3$ is the same as $G^1{}_3$ (right).

Below Observer: Center circle G Same Direction$^2{}_3$G; and$^2{}_3$; G_2,G_4 in the opposite direction ,G_4(down),(G_2(Up).

Figure 7|Each straight line has equal symmetrical coordinates. They have five invisible coordinates (dark coordinates) with an angle of 60⁰ adjacent to each other in the plane. The observer in each coordinate system corresponds to the material world, which is each observer's own visibility. Symmetrical circle world. The visible world that the observer can observe is different in the structure of the observation universe (the sum of matter, space, field, etc.) due to the observer's level, observation method, and observation tool.

1) The observer's own system (uniqueness)
2) The percentage of the real number domain material system observed by the observer in the overall system: 1/3=33.33%
3) The percentage of the complex number domain substance system observed by the observer in the overall system: 1/6=16.667%,
4) The complex number domain material system observed by the observer + the six superposition of the central circle, the visible world that the observer can observe in the plane only accounts for 1/12=8.333% of the overall plane world,
5) Percentage of the observer in the visible material system in the three-dimensional system: 1/20=5.0% (dynamic vertical) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be <5.0%.).
6) Percentage of the observer in the visible material system in the three-dimensional system: 1/24=4.1667% (static) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be < 4.1667%.).
7), the observer's three-dimensional visible matter system accounts for the percentage of the [5), 6)]d average of the total universe system: =(1/20+1/24)/2=4.58333%.



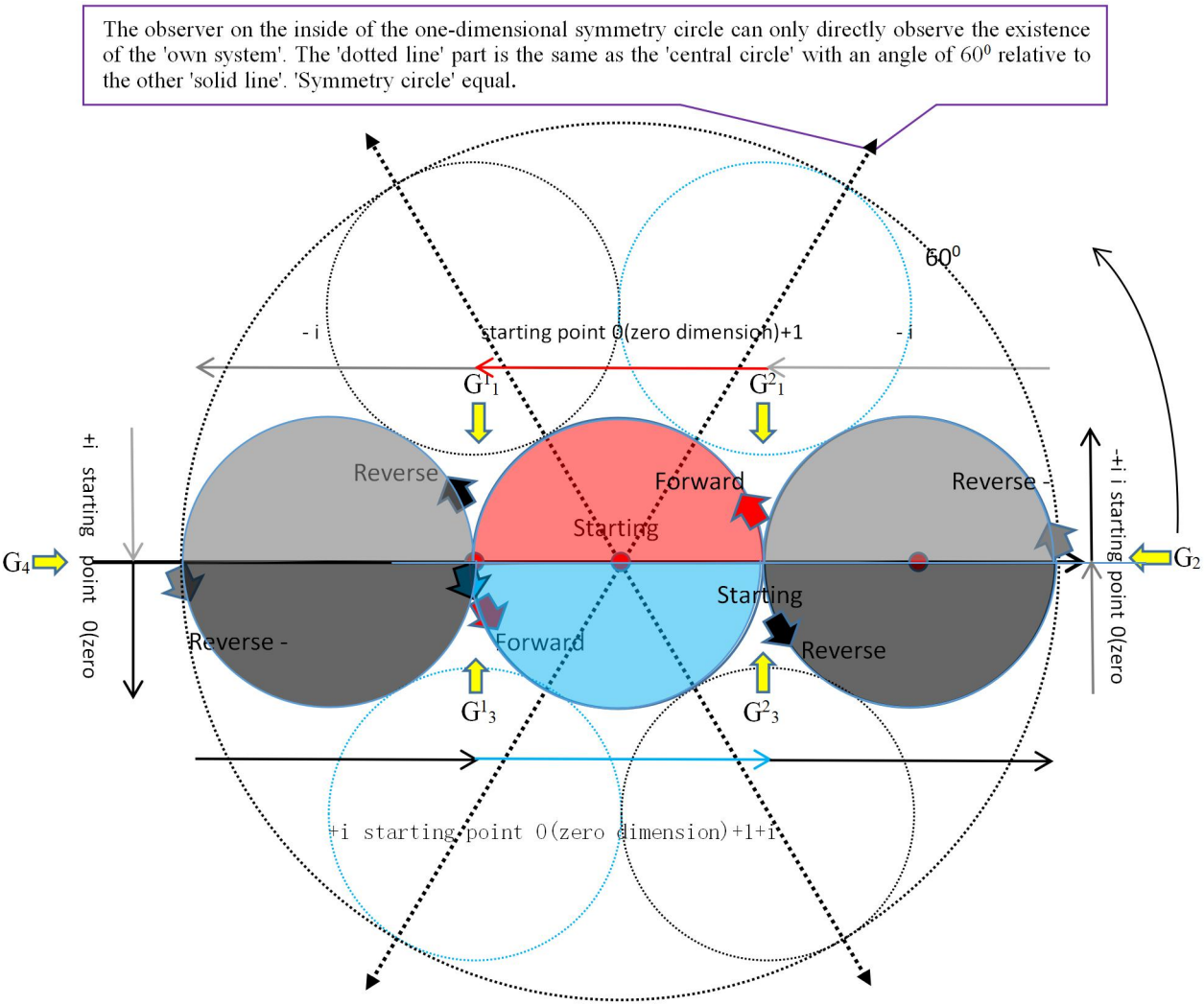
Coordinate code $S^a{}_2$

Above observer: central garden direction G same$^1{}_1$; $G^1{}_1$Same$G^2{}_1$In the opposite direction (from the middle to the sides);$G^2{}_3$Same$G^1{}_3$In the opposite direction (from both sides to the middle)

Below Observer: Central Garden G Same Direction$^2{}_3$G; and$^2{}_3$; Figure G_2,G_4Same direction ,(G_4(),(G_2Down)

Figure 8|Each straight line has equal symmetrical coordinates. They have five invisible coordinates (dark coordinates) with an angle of 60⁰ adjacent to each other in the plane. The observer in each coordinate system corresponds to the material world, which is each observer's own visibility. Symmetrical circle world. The visible world that the observer can observe is different in the structure of the observation universe (the sum of matter, space, field, etc.) due to the observer's level, observation method, and observation tool.

1) The observer's own system (uniqueness)
2) The percentage of the real number domain material system observed by the observer in the overall system: 1/3=33.33%
3) The percentage of the complex number domain substance system observed by the observer in the overall system: 1/6=16.667%,
4) The complex number domain material system observed by the observer + the six superposition of the central circle, the visible world that the observer can observe in the plane only accounts for 1/12=8.333% of the overall plane world,
5) Percentage of the observer in the visible material system in the three-dimensional system: 1/20=5.0% (dynamic vertical) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be <5.0%.).
6) Percentage of the observer in the visible material system in the three-dimensional system: 1/24=4.1667% (static) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be < 4.1667%.).
7), the observer's three-dimensional visible matter system accounts for the percentage of the [5), 6)]d average of the total universe system: =(1/20+1/24)/2=4.58333%.



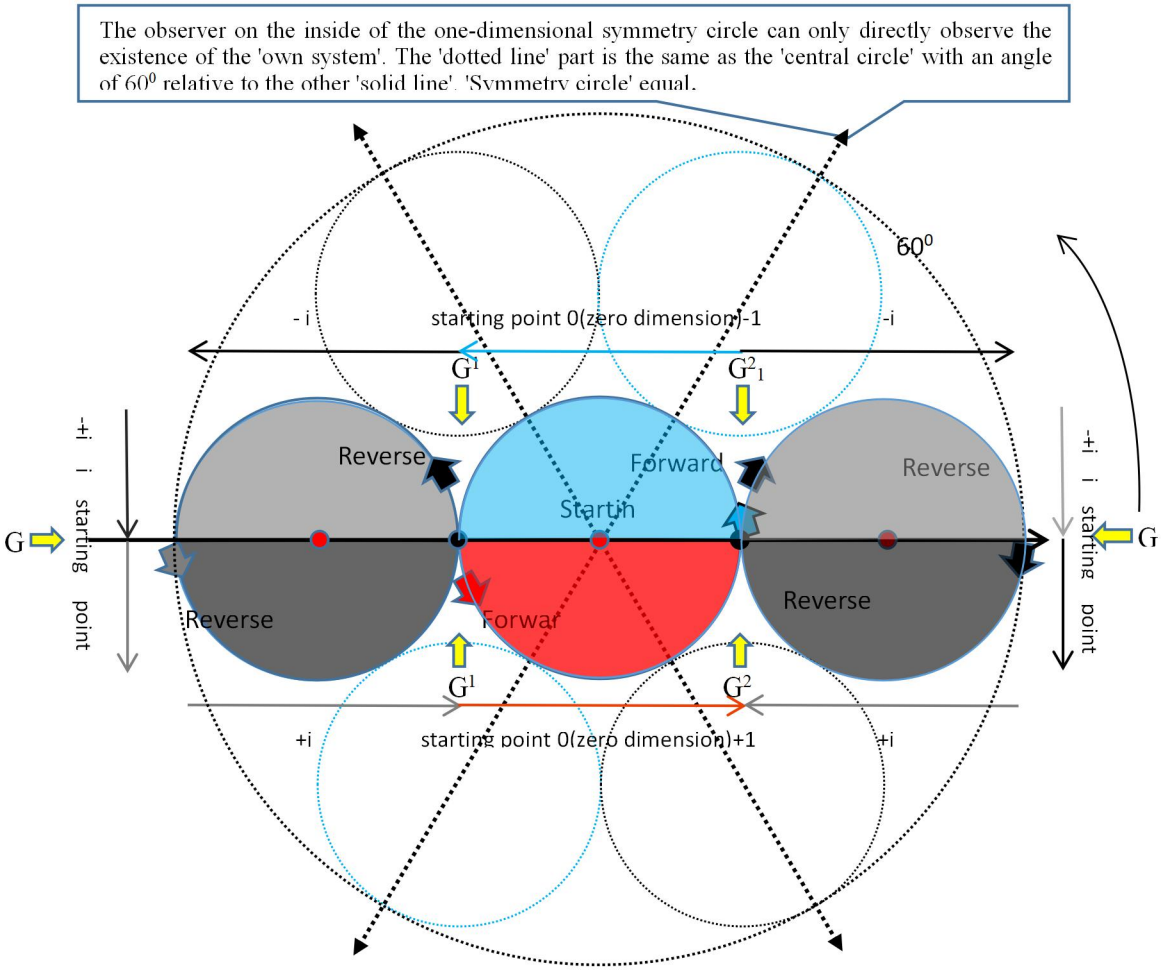
Coordinate code S^a_3

Above observer: central garden direction G same$^1_1$、G^2_1; G^1_1,G^2_1Same direction (left);G^2_3, G^1_3Same direction (right);

Below Observer: Central Garden G Same Direction$^1_3$G; and$^2_3$; G_2,G_4In the opposite direction ,(G_4),(G_2(Up).

Figure 9| Each straight line has equal symmetrical coordinates. They have five invisible coordinates (dark coordinates) with an angle of 60⁰ adjacent to each other in the plane. The observer in each coordinate system corresponds to the material world, which is each observer's own visibility. Symmetrical circle world. The visible world that the observer can observe is different in the structure of the observation universe (the sum of matter, space, field, etc.) due to the observer's level, observation method, and observation tool.

1) The observer's own system (uniqueness)
2) The percentage of the real number domain material system observed by the observer in the overall system: 1/3=33.33%
3) The percentage of the complex number domain substance system observed by the observer in the overall system: 1/6=16.667%,
4) The complex number domain material system observed by the observer + the six superposition of the central circle, the visible world that the observer can observe in the plane only accounts for 1/12=8.333% of the overall plane world,
5) Percentage of the observer in the visible material system in the three-dimensional system: 1/20=5.0% (dynamic vertical) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be <5.0%.).
6) Percentage of the observer in the visible material system in the three-dimensional system: 1/24=4.1667% (static) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be < 4.1667%.).
7), the observer's three-dimensional visible matter system accounts for the percentage of the [5), 6)]d average of the total universe system: =(1/20+1/24)/2=4.58333%.



Coordinate code$S^a{}_4$

Above observer: central garden direction G same$^1{}_1$; $G^1{}_1$Same$G^2{}_1$In the opposite direction (from the middle to the
Below Observer: Central Garden G Same Direction$^1{}_3$; G_2,G_4Same direction ,(G_4(),(G_2(Down).

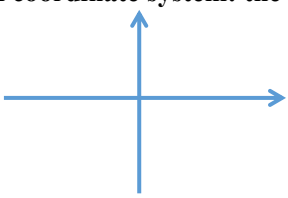
Figure 10|Each straight line has equal symmetrical coordinates. They have five invisible coordinates (dark coordinates) with an angle of 60^0 adjacent to each other in the plane. The observer in each coordinate system corresponds to the material world, which is each observer's own visibility. Symmetrical circle world. The visible world that the observer can observe is different in the structure of the observation universe (the sum of matter, space, field, etc.) due to the observer's level, observation method, and observation tool.

1) The observer's own system (uniqueness)
2) The percentage of the real number domain material system observed by the observer in the overall system: 1/3=33.33%
3) The percentage of the complex number domain substance system observed by the observer in the overall system: 1/6=16.667%,
4) The complex number domain material system observed by the observer + the six superposition of the central circle, the visible world that the observer can observe in the plane only accounts for 1/12=8.333% of the overall plane world,
5) Percentage of the observer in the visible material system in the three-dimensional system: 1/20=5.0% (dynamic vertical) [8]], due to the observer's frame of reference and the observer's own reasons, the observation result may be <5.0%.).
6) Percentage of the observer in the visible material system in the three-dimensional system: 1/24=4.1667% (static) [8], due to the observer's frame of reference and the observer's own reasons, the observation result may be < 4.1667%.).
7), the observer's three-dimensional visible matter system accounts for the percentage of the [5), 6)]d average of the total universe system: =(1/20+1/24)/2=4.58333%.

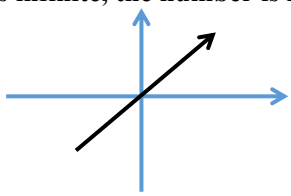
Other forms are not listed

2. six-level symmetric multidimensional mathematical coordinate system

2.1 Traditional coordinate system: the length of the number axis is infinite, the number is infinite, is a cube.



An infinite Cartesian coordinate system with an origin and no starting point



An infinite three-dimensional rectangular coordinate system with an origin and no starting point

Figure 11

2.2 New closed spherical coordinate system: the length of the number axis is limited and the number of numbers is limited. The structure and variation rules of the number axis of six levels, symmetry, multidimensional and complex numbers should be satisfied.

2.2.1 A closed 'six-level, symmetric, multidimensional, and complex number axis' 'background space' coordinate system..

In a plane circle, two finite straight lines perpendicular to each other form a rectangular coordinate system within the circle.

In two plane circles, two finite straight lines perpendicular to each other form the right angle coordinate system in the circle, and the axis perpendicular to the horizontal plane passing through the center of the circle in the vertical circle surface is added to form the finite right angle spherical coordinate system.

Figure 12|, the two coordinate systems to meet the 'six-level, symmetric, complex, multidimensional axis' change rules.

2.2.1 Close the 'six-level, symmetric, multidimensional, and complex number axis' coordinate system, and the number axis in the period is the two-dimensional number axis coordinates.

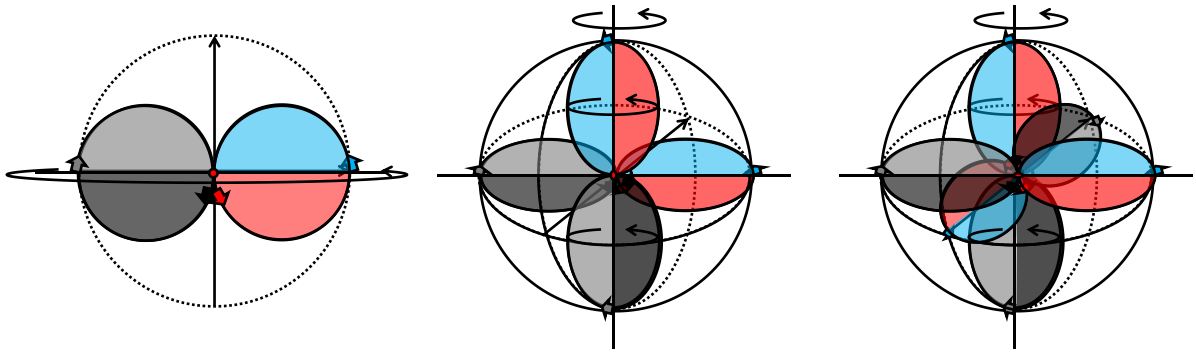


Figure 13| a，'One plane' two-axis coordinate system.

The plane system formed by the tangent circles of two planes rotates around an axis in the period to form a ring without a hollow, which is called a two-dimensional 'six-level, symmetric, multidimensional, and complex number axis' circular plane coordinate system .

Figure 13b | Non-interference of 'two planes'

Three-axis coordinate system.
Two vertical and concentric circular surfaces that do not interfere with each other, one of which is perpendicular to the other circular surface, rotates to form a sphere; the two flat circles are tangent to each other to form a plane system, which is expected to rotate on one axis to form a sphere. A ring body without a hollow body, and a sphere perpendicular to the plane of rotation to form the upper and lower parts of the ring body. It is called a three dimensional 'two circular surfaces' three axes' six-level, symmetrical, multidimensional, and plural number axis' spherical coordinates system.

Figure 13c | 'Three planes' that do not interfere with each other
Three-axis coordinate system
Three vertical "concentric" circular surfaces that do not interfere with each other, in the hope that one of them "commonly" rotates perpendicular to the axis of the three circular surfaces to form a sphere; the circles in the two planes are tangent to form a plane system, with a view to One of the shafts rotates to form a ring without a hollow, and the other is perpendicular to the plane of rotation to form a ball with two upper and lower parts embedded in the ring. It is called a three-dimensional 'three circular surface' three axis' six-level, symmetrical and multidimensional , Complex number axis' spherical coordinate system.

Figure 13 |'b, c'is a complex coordinate system with 'multiple' possibilities. When they do not interfere with each other,

they are imaginary numbers and space fields. When they are 'Mutual interference', they return to the 'a' coordinate form (decoherence).

Principle of decoherence:

There are two kinds of observers and two kinds of reference frames, one is the coordinate system and the observer inside the closed sphere, the other is the observer and the external observation system outside the closed sphere. The observer should not cross the observation system arbitrarily. The total observer can cross the internal and external levels of the closed sphere system arbitrarily, but the conclusion is different for different ways of crossing, different methods of crossing, different order of crossing and different time span .(this is the source of disagreement, controversy, sophistry). Therefore, it is necessary for a supreme unified observer to be able to unify the observations of each observer at the same time, to know the differences in the transmission of information between observers and between observers and between observers and general observers (relativistic effect), to record the observations of the general observer, to form a system of observation of the whole. Avoid the results of blind people, avoid differences, disputes and sophistry between different observers.

2.3.0. A simplified expression method for six-level symmetric multidimensional coordinate system

Figure 14 | B in B_x represents the coordinate system, and x represents the type of coordinate system. When we don't need to consider the internal type of coordinate system B (when the type has no effect on the observer, the observer at this time is generally the total observer standing in the absolute reference system), the six-level coordinate system is transformed into a traditional coordinate system.

3.0 . The Inclusion Principle of level and level

That is, the large circle layer contains the small circle layer, and the small circle layer contains the smaller circle layer, but the inclusion of the circle layer is not infinite, and the inclusion change of the circle layer should satisfy the rule of the stratification principle.

3.1 $R_N=2^n r$ inclusion principle

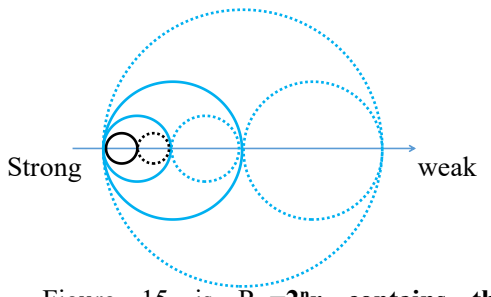


Figure 15 is $R_N=2^n r$ **contains the internal level of the relationship from small to large, from weak to strong.**

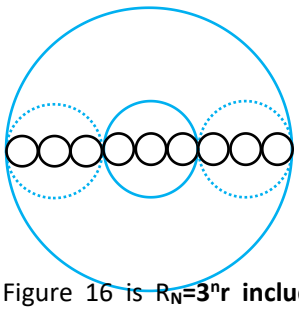


Figure 16 is $R_N=3^n r$ **include relationships**

3.2. $R_N=3^n r$ inclusion principle

As shown in Figure 4, the inside of a large circle contains three small tangent circles, and the inside of each small circle also contains three smaller tangent circles.

This article only lists two inclusion principles of six-level symmetric geometry, and only discusses the inclusion relationship of $R_N=2^n r$ in Figure 3.

3.3. Containing the principle of gradient

As the level changes, the Inclusion relation gradually becomes stronger from nothing to weak, or from strong to weak, and finally disappears [3] 。

4. Compound number

In this paper, according to the two-dimensional number axis coordinate system, the complex numbers are divided into 'cis' complex numbers and 'inverse' complex numbers; the 'cis and inverse' complex numbers contain their respective complex numbers in the direction of 'positive and negative'. The difference between 'positive and negative' complex numbers is The difference in direction in the two-dimensional number axis coordinate system, in the projection of the one-dimensional number axis on the plane number axis, the direction of the origin pointing to the origin direction is specified as negative, and the direction pointing to the end point is positive. Since the composite number is a number with both positive and negative directions, each composite number is a vector number with a direction. When the direction of the 'number' is not considered under certain time and conditions, it becomes an ordinary scalar number. When the reciprocal relationship is not considered, the compound number becomes the traditional plural.

5. Division method and hierarchy of dimensions of six-level symmetric multidimensional mathematics

Table 1 shows (3^6) that each dimension contains six levels, and the six dimensions constitute a total dimension. The numbers inside all dimensions are finite. At the same time, because the number $(3^6)^{7776}$ is very large, we observers cannot exhaust all the numbers. Therefore, relative to the set of $(3^6)^{7776}$, the numbers are relatively infinite, so infinity is relatively. The origin of different dimensions and different levels, in this level and within this dimension, under certain conditions, this origin will become a 'singularity'. Both forward and direction have end points and end positions. The reverse direction is relative to the forward direction. Here we are used to regard the right side as the forward direction and the left side as the reverse direction. However, the observer inside the "forward and reverse" direction cannot perceive the existence of the opposite direction. The observer or the total observer can 'perceive, observe', and even influence the internal movement and structure in the 'forward and reverse' directions.

	Reverse origin forward		
	Back starting point Zero dimension$(3^6)^{46656}$	Starting point (zero dimension)3^0	Back starting point Zero dimension$(3^6)^{46656}$
Tot	1D $(3^6)^{7776}$ [1] 2D $(3^6)^{1296}$ 3D $(3^6)^{216}$ 4D $(3^6)^{36}$ 5D $(3^6)^{6}$ 6D $(3^6)^{6-6}$	1D $(3^6)^{6-6}$ 2D $(3^6)^{6}$ 3D $(3^6)^{36}$ 4D $(3^6)^{216}$ 5D $(3^6)^{1296}$ 6 $(3^6)^{7776}$	1D $(3^6)^{7776}$ [1] 2D $(3^6)^{1296}$ 3D $(3^6)^{216}$ 4D $(3^6)^{36}$ 5D $(3^6)^{6}$ 6D $(3^6)^{6-6}$
	Reverse inverse End point (start point) 3^0	Anti-start point zero dimension $(3^6)^{46656}$	Forward and inverse Termination point (starting point)3^0

6.1. Number and domain division of six-level symmetric multidimensional mathematics

Dimensional division of numbers: our current numbers are roughly divided. Integer, fraction, rational number, irrational number; because of the appearance of imaginary number, it is summed up into a set of real numbers (real

number domain), and imaginary number plus real number constitutes complex number domain. So is the plural the end of the number? No! In this paper, the number domain continues to be divided into: 'cis' and inverse directional numbers. Hierarchical number, compound number and dimension are introduced, and the concepts of relative number domain and absolute number domain and observer concept are introduced.

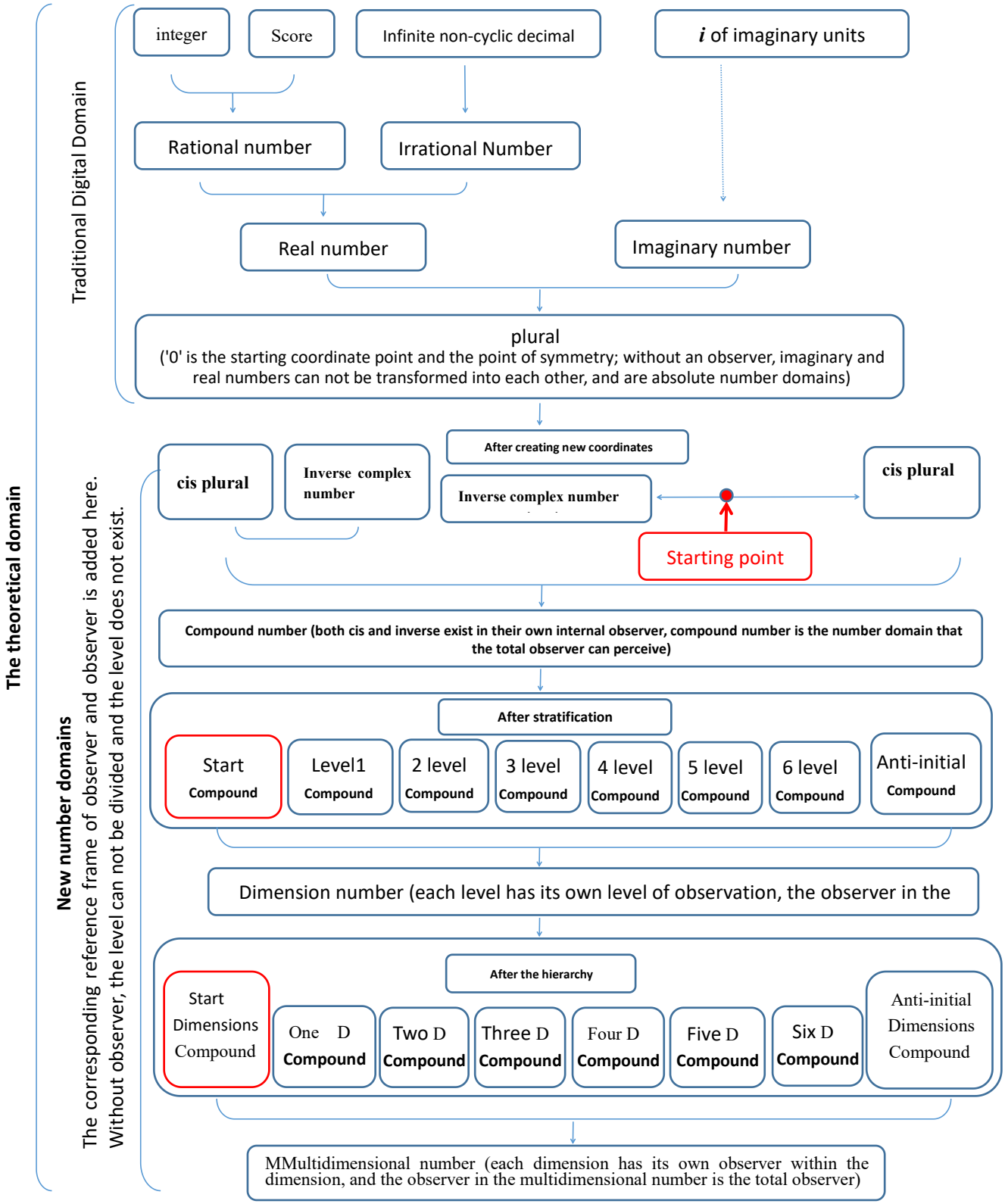


Fig .16| the dotted line in Figure 16 is the axis of symmetry, and the one-dimensional line is divided into two parts by the axis of symmetry. The complex number here is not just the traditional complex number field. Here, all the complex numbers of the traditional complex number are regarded as a complex number set. In this theory, there are n such complex number sets. The complex number properties of different complex number sets only satisfy the properties of this set. Here complex numbers are divided into 'cis' plural and 'anti' plural, and the two number fields are a contradictory unity. Mutual denial and interdependence. At the same time independent of each other. One dimension is a line segment of a finite-length positive repeat number field (not a traditional infinite straight line, there is no infinite concept here, only a relative definition [ ]) 'is the source of mirror entanglement'.

6.2. Absolute number and absolute number field

The traditional number is a numerical value and also represents the position on the number axis. The absolute operation relation between this value and the position on the number axis is the absolute relation. The system composed of this relation is the absolute system. The set of all numbers of this system constitutes the absolute number domain.

$$1+1=2$$

$$n+n=2n$$

In the whole process, the elements inside the system are not allowed to change qualitatively, the values are not allowed to change, and the position of the number axis will not change.

6.3. Relative number field

The operational meaning of traditional numbers:

Traditional numbers are numbers in classical mathematics, and the set of all numbers in classical mathematics is written as C_0 and C is omitted;

The C set is the set of all plural numbers.

$$1+1+n=2+n$$

Represents two 1+n together, and two 1+n together system called 2+n n, at the same time corresponding to the number axis of 2+n n position (n represents any number);

1.2 Represents values and order of arrangement on the number axis;

$$1 \times 1=1$$

The hierarchy of numbers and the hierarchy of number domains

The traditional number only represents the numerical size (quantity) and its arrangement on the number axis;

Traditional numbers have no hierarchical relationship and are equal generations.

The tradition is the number 1+1=1,.

Number of levels:

In the number of levels, the number is divided into levels (division by generation).

The number of layers is represented by ϕ_m,

Where ϕ represents any traditional number,

m represents the level of numbers,

m=(0, I, II, III, IV, V, VI, 01), 0 means the starting level, 01 means the end and the qualitative change to a

higher starting level.

When m=0, ϕ_0 represents the initial level, the 0 is omitted and it becomes ϕ. At this time, ϕ is the traditional 'number'

$$\phi \in C$$

$$C\phi_m \in C_w$$

$$m=(0, I, II, III, IV, V, VI, 0_1)$$

$$W=(zero, one, two, three, four, five, six, zero_1),$$

W represents dimensions, a total of 8 dimensions.

$C_{\phi m}$ represents the set of all ϕ_m, and C_w represents a set of dimensions corresponding to w.

$1_0+1_0=1_1$, which means that two people 'form a new social organization', which is one level higher than the 0 level of the original subscript.

If two people are of the opposite sex, they can form a family. This 1_1 represents a family.

$$1_0+1_0=1_1 \Rightarrow (1_0+1_0+1_I)_1 \Rightarrow 1_0+1_0+1_0=3,$$

This $+1=1_1$to form a higher family),$(1_0+1_0+1_I)_1$It means that the family has a child, most at the family level, three people are still a family, from the general observer, the family has three people.

Ultimately :1+1=>3 or 4 or 5- x. The intermediate process is to produce a family,

$1_I+1_I=1_2$ means two offspring. Combine to produce ' 1_2 ' A new, higher-level grandson family.

Starting level G0: 1_0 'representing' the parents;

The first level G_I: 1_I 'representative' children;

The second level G_{II}: 1_{II} 'representative' grandchildren;

General Observer G: The number '3' represents people with no qualitative difference. 1_0 'represent' the father's generation; 1_I'represent' the children; 1_{II}'represent' the grandchildren;

(1) $_1$ represents a 'family'.

A relative G_n An observer or observer's frame of reference is a system that does not change or occurs within a certain period of time under certain conditions and is negligible, that is, the absolute frame of reference is C_n recorded as.

In the above process, the observers are divided into 1) parent observers, 2) children observers, 3) grandchild observers and 4) total observers.

The total observer will produce a large universal concept at the level of a person, so a family is viewed at the level of the person: a husband and wife have a child and become three people. If you look at the family from the family level, the family is still a family. Compared with the original family, this family has one more child. This conceptual level of thinking changes is a contradiction that leads to inconsistent thinking levels of the two observers, leading to sophistry and confusion. Since both child-level observers and grand-grand-level observers can shuttle between the levels of 'people, families, parents, children, and grandchildren', in the process of thinking and observing the world like this, two observers or two With reference to the system, when associations occur, such hierarchical differences will result, leading to errors, resulting in contradictions and mutations (at the material level, the original movement trajectory, movement form, or even qualitative change).

6.4. Complex number domain

The compound number uses $(F_m)_w$, F represents the compound number, m represents the level of the

compound number, and w represents the dimension of the compound number.

$$(F_m)_w = {}^sC_w + {}^fC_w$$

${}^sC_w$ means the number of dimensions in the forward direction, ${}^fC_w$ means the number of dimensions in the reverse direction,

When the observer and the frame of reference cannot perceive, or the "relative number field" ignores the image of the observer and the frame of reference, the "composite number" of the "forward or reverse" number field becomes a dimensional number.,

$$(F_m)_w = {}^sC_w + {}^fC_w \Rightarrow ({}^sC_w \text{ or } {}^fC_w) \quad \text{No directional dimension}$$

7.0 Discussion and summary

Our classical number axis only intuitively reflects our world, like natural number, is the result of simple thought. On this basis, we have developed from natural number to complex number axis and quaternion. Our coordinate system is still in the simple historical stage of the natural coordinate system. In the face of the development of our theory, we use the simple coordinate system of this natural stage to understand many natural phenomena and produce incomprehensible and impossible ghosts.

These strange phenomena are proof that our mathematical system needs to be developed,

The logic of mathematical operation and the domain of number in a deeper world need to be expressed by hierarchy theory.

The traditional (classical) number is divided without hierarchy, and the relationship between number and number is equal.

The number in the six-level multidimensional symmetric mathematics is divided into different levels and different dimensions, and only the number of the same level and the same dimension is equal. In the same number domain and the same level of relative time period, relative stability conditions, the observer and reference system observation results are equivalent to or similar to the traditional complex domain.

References

[1] Introduction to plane six layers symmetrical complex number geometric space.
https://doi.org/10.6084/m9.figshare.11341385.

[2] Introduction to the 'Six-level Symmetric Complex Number Static Multi-dimensional' Geometric Model.
https://doi.org/10.6084/m9.figshare.12251297.

[3]The physical and geometric 'spherically symmetric' principles of nature.
https://doi.org/10.6084/m9.figshare.12980819.

[4] *Dynamic screen space.*
https://doi.org/10.6084/m9.figshare.12456674.

[5] *static screen space*.
https://doi.org/10.6084/m9.figshare.12957911.