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What is spin?

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PhD in superconductivity

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ABSTRACT: We begin with the so far founded belief that there are five dimensions and describe spin as a projection of a movement

KEYWORDS: quantum mechanics Spin, Five-dimensional hypersphere, Wavefunction projection, Dirac monopole.

INTRODUCTION

We have completed extensive research on the hidden variables of quantum mechanics. The main result is that the quantum system performs cycles when left intact which describe its own time. The external observer observes its time as frozen. A hypersphere of simultaneity extends through the whole space theoretically. Spin is a property of every particle and has been described before as a projection from a Bloch four-dimensional hypersphere. We give new definitions in this paper

MAIN PART

Spin is the projection of something in the five-dimensional world to our world. As we project its four-dimensional hypersphere to our world the South pole which marks the beggining of an event is at the beggining of the axis. The North Pole which marks the end of an event stans at infinity.

This complies with the hypothetical Dirac monopole and the North and South Pole are binded by a Dirac string carrying the flux of superconducting spacetime.

This projection creates the shells and solves the misunderstanding why in early stages of reforming the Kaluza Klein theory the discussion was about a torus which is one of the many shadows of the five-dimensional projection in our three-dimensional world

According to this model of spin the electron is a spherical vortex like Hill s spherical vortex with spin inside and appearing as an electric dipole outside. This is where polarization comes from.

The final metric of the five-dimensional world [1] is:

$$dQ^2 = (K_B T_c)^2 (d\Omega^2 + d\phi^2) \quad (1)$$

In equation (1) Omega is the three-dimensional solid angle proportional to the length of worldline and phi is the phase of the wavefunction. The four-dimensional solid angle is:

$$d\Omega_4 = sin\phi^2 d\phi d\Omega \quad (2)$$

The wavefunction is written as:

$$\psi = a + ib = |\psi|(cos\phi + isin\phi) \quad (3)$$

The area prescribed by psi in the complex plane is:

$$dA = |\psi|^2 (cos\phi^2 d\phi + sin\phi^2 d\phi) \quad (4)$$

If the absolute value of the wavefunction is the radius of the four dimensional
hypersphere the first term in equation (4) represents the three-dimensional surface of a dual sphere slice of the hypersphere.

As the phase phi goes at zero we have the appearance of a magnetic monopole labeled as South marking the beggining of the event[2]. A full 3d projection sphere representing it is formed as a slice of the hypersphere. At phi equal to pi over 2 the sphere shrinks to a point. At phi equal to pi the North antimonopole is formed marking the end of the event.

In returning to the central question of this paper since h bar has dimensions of action as we have proved the spacetime metric is connected to action [3]. Furthermore, there is some form of angular motion on the fifth dimension which projected on our universe gives the spin and the ration q/m of the particle else called gyromagnetic ratio [4]. A spin ½ would bring two valuedness as spin is known to be a rotation in four dimensional spacetime [5].

Action angle variables are the representation of this problem and their diagram are on a torus. As we have explained this is a cut of the

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hypersphere.

This is the 4d hypersphere of constant entropy. The surface of the hypersphere is a five-dimensional cosmic line which appears according to Kaluza Klein theory as a superconducting current in our world [6].

For reasons of clarity we give the five-dimensional metric again in a more illuminative form:

$$\frac{|\psi|^2 dS^2}{K_B{}^2} = K^2 ds^2 + d\phi^2 \quad (5)$$

Obviously spin affects the four-dimensional metric, the small s and is involved in the counting of solid angles. One can imagine this as a disco ball which as it is rotating-spinning the solid angles are changing and what we observe in our floor are circles illuminated growing bigger and vanishing.

CONCLUSION

We have given some insight to the wavefunction and what it could represent

In the year 2027 a book will be published giving exact details and discussing the foundations of quantum mechanics

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