New Aspects of Bases of Physics

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ABSTRACT: Once more the possibility of the existence of a hidden parameter as additional dimensions (f. e. loop dimensions) has been discussed. The possibility of obtaining solutions of the Dirac-Einstein equation has been investigated. At the end two different interpretations of wave function have been discussed in other light.

1. Relativity

The notions (charges) of other interactions besides the mass don't depend upon velocity.
It is so, because the charges are mutually equivalent (indirectly) through mass. The question arises – why? Next, the rest mass doesn't depend on velocity.

2. Relativity once more

According to Relativity there is not the limitation of velocity [1]. Relativity doesn't forbid the motion with the velocity bigger then so called limit velocity.
The period of circulation around loop dimension is:

$$T = \frac{2\pi r}{v}$$

r may be freely small, v freely big.
So we can choose r and v so that T < ε, where ε is the precision of measurement.
There is not limitation of v and the loop lattice may be freely dense. So the emitted quantum will circulate around the loop and it will be absorbed again before it will be observed.
The fact that the additional dimensions permit to explain in the classical way why an electron doesn't fall onto the center, is the next argument that the additional dimensions are the Einstein hidden parameters.

3. Dirac-Einstein equation [2]

In the Dirac-Einstein equation it is necessary to know: gravitational potentials, quantum potentials and spinors. We must assume that we know something and solve it in consideration of the other values.
It is necessary to verify if the Dirac-Einstein equation permits to solve more precisely the problem of the deviation of the perihelium of the orbit of Mercury.

4. Interpretation of wave function

On the contrary to earlier works, the author is prepared to accept the point of view that Schrödinger's interpretation of the wave function is the correct interpretation. But it is necessary to solve the fundamental equations of physics in all dimensions (in the loop dimensions too) and it is impossible. So there appears the place for probability and for Born's complementary interpretation which is connected with it.

References:

[1] Z. Morawski, "Implications of Complex Mass", this website
[2] Z. Morawski, "Attempt at Unification of Interactions and Quantization of Gravitation", this website