

Gravitation, Supergravitation and Other Interactions

Zygmunt Morawski

Abstract: Another opinion that this King of Physics concerns the cosmological constant has been presented.

Once more I have stated that supersymmetry corresponds with 8-dimensional spacetime.

Although gravitation in General Relativity depends on the velocity by the energy-momentum tensor, Special Relativity depends on the velocity by the dependence mass on velocity, too.

So the formula (1):

$$m = \sum_{l=0}^{\infty} Q_l |Q_l|$$

does not contain the discrepancy, because the electromagnetic strong and perhaps many yet undiscovered interactions depend on the. The dependence on the velocity may be absorbed by Q_1 if Q_1 does not depend on it.

Generally the formula (1) may exist in the matrices version.

The Dirac-Einstein equation in the version of the 8 x 8 matrices and 8-spinors conjugates fermions to bosons (4 upper components of spinor differ from 4 lower components of spinor by the difference $\frac{1}{2}$).

The Dirac-Einstein equation together with the cosmological term describes the quantum gravitation as well as the quantum supergravitation.

In the matter of the cosmological constant I do not agree even with the King of Physics, to Whom I pay homage now (and to many other comparable with Him Authorities).

I am convinced that every mathematical solutions of the problem of the divergence equal zero of the both terms of Einstein's equations are realized in Nature.

The particle being the result of the supersymmetry breaking corresponds with the notion of Supergravity ($n = 0$).

The existence of this particle is considered by the Dirac equation and Dirac-Einstein equation for 8×8 matrices.

So these particles correspond with 8 dimensions. Let's remember that m is a matrix with many components too.

So the possible discovery of the particles being the result of the supersymmetry breaking should implicate the discovery of the additional dimensions (at least 8) and tachyons (machyons).

Next, the possible discovery of the additional dimension will be the strong argument supporting the theory of strings.