

Why Unification of Gravity and Standard Model is Impossible?

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Abstract: Here are the arguments that show why unification of the classical General Theory of Relativity (GR) and the quantum Standard Model (SM) is impossible. The term “force” does not mean the same in these two basic theories. The unification of these two basic theories is impossible due to the different properties of the two parallel spacetimes one associated with the GR and the second with SM. Origin of such splitting/bifurcation follows from the internal structure of the Einstein-spacetime components. Since the size of the Einstein-spacetime components is close to the Planck length so the origin of the splitting/bifurcation concerns the sizes smaller than the Planck length. In both theories we neglect internal structure of bare particles so there appear singularities and infinite energies of fields. This causes that within the GR and SM we cannot understand the fundamental differences between classical and quantum theories. The same concerns the string/M theory because this theory starts from wrong initial conditions i.e. objects of the Planck size are not some simple loops/closed-strings. They look as a miniature of an active galaxy, for example, the NGC 4261. There is the torus and ball in its centre. The smallest closed strings have size much smaller than the Planck length and are the perfect circles carrying the half-integral spin as well. The real supersymmetry, i.e. the fermion-boson symmetry, differs very much from the supersymmetry that leads to the undetected s-particles and gauginos.

1. Introduction

There are the two long-distance interactions i.e. gravity and electromagnetism, or the three when we take into account the superluminal entanglement but this interaction is not associated with a field external to sources of forces. The two long-distance fields lead to conclusion that there are in existence two parallel different spacetimes. They are the Newtonian spacetime, which I refer to also as the fundamental spacetime or the modified Higgs field, and the Einstein spacetime [1]. The Newtonian spacetime is the ideal gas composed of the non-Principle-of-Equivalence tachyons whereas the Einstein spacetime is the gas composed of the neutrino-antineutrino pairs. Generally, the electromagnetic force that is described in the Standard Model also, follows from emission by charges/sources the massless carriers i.e. photons. Next, the massless energies/photons produce the virtual particle-antiparticle pairs that are built of from the Einstein spacetime components. The virtual pairs, due to the superluminal entanglement, are polarised in relation to the sources of forces [1]. Due to the superluminal entanglement, the energy needed to create the virtual pairs can appear in each

point of the Einstein spacetime in our Universe almost without any delay. Due to the entanglement, the polarization of the virtual pairs in relation to the sources of the forces appears almost without any delay as well.

2. The problem and solution

I will try to prove that the term “force” does not mean the same in electromagnetism described within the quantum Standard Model (SM) and gravity described within the classical General Theory of Relativity (GR). Origin of the double meaning of the term “force” is associated with sizes smaller than the Planck length, with internal structure of the two parallel spacetimes and internal structure of the bare fermions, especially, of neutrinos.

The main reason that unification of the GR and SM is impossible follows from properties of the components of the two spacetimes, i.e. respectively of the tachyons and the neutrino-antineutrino pairs, and from properties of these spacetimes as the wholes.

In the era of inflation, the today Newtonian spacetime behaved as liquid-like spacetime. The cracks in such spacetime lead to creations from the tachyons the neutrino-antineutrino pairs which size is in approximation equal to the Planck length [1], [2]. This means that the liquid-like spacetime composed of the tachyons behaved similarly as the Einstein spacetime i.e. there were produced pairs and in some regions the pairs were polarized in relation to the free neutrinos. We can say that the Gravity at the beginning of the inflation looked like the weak interactions. Today, the Newtonian spacetime is the perfect gas composed of tachyons i.e. the tachyons interact only when they collide. There is not in existence an entanglement of the tachyons that is characteristic for the Einstein-spacetime components i.e. for the neutrino-antineutrino pairs. The entanglement of the Einstein-spacetime components follows from their internal structure [1]. They exchange the binary systems of closed strings the Einstein-spacetime components consist of. We can say that the gravitational fields produced by the Einstein-spacetime components do not produce forces understood as it is in the Standard Model (i.e. sources emit massless energies and next vortices of such energies produce the particle-antiparticle pairs in FLAT spacetime; forces follow from statistically spherical polarization of such pairs in relation to the sources). We can say that gravity follows from a distortion of space geometry produced by the binary systems of closed strings the Einstein-spacetime components consist of. They have internal helicity that transforms the chaotic motions of the tachyons into the divergent jets composed of tachyons [1]. The collisions of the tachyons in the jets with the tachyons the Newtonian spacetime consists of produce the distortion of spacetime geometry. Just in the GR the Newtonian spacetime is not flat whereas in the SM the Einstein spacetime is flat and forces follow from polarization of the particle-antiparticle pairs built up from the Einstein-spacetime components. The gravity follows from the distortion of the Newtonian spacetime geometry produced by the components of the Einstein-spacetime components. The quantum physics follows from the pair production. Next the pairs are polarized due to the superluminal entanglement that results from the exchanges of the components of the Einstein-spacetime components. We can see that gravity and quantum physics lead to the components of the Einstein-spacetime components. Since the size of the Einstein-spacetime components is close to the Planck length then the origin of the bifurcation onto the classical GR and quantum physics is associated with the binary systems of the closed strings, which size is smaller than the Planck length, and with existence of the two parallel different spacetimes. This means that we must apply new methods to describe the GR-SM bifurcation.

Generally, the GR-SM bifurcation is associated with the internal structure of the bare neutrinos and existence of the two different spacetimes. Contrary to the Everlasting Theory, the structure of neutrinos and spacetimes is neglected in the GR and SM i.e. there is assumed

that the bare neutrinos are the sizeless points. It causes that there appear the singularities and infinite energies of fields.

We can see as well that the term “curved spacetime” is not adequate since the Newtonian spacetime is the ideal gas but it is true that gravitational fields are not flat.

When mass density of a body increases then as well increases number density of the binary systems of closed strings i.e. space (not spacetime) is shrunk. Then, due to the internal helicity of the binary systems of closed strings, the tachyons in the Newtonian spacetime are more effectively swept away by the divergent jets composed of tachyons as well. It means that spacetime and time is stretched i.e. the mean distance between the free pieces of space (the free tachyons) increases so their collisions are rarer i.e. unit of time lasts longer and longer.

The electromagnetic force, that is inversely proportional to square of distance from a source, follows not from curvature of the Einstein spacetime but from the spherical-symmetry polarization and the hedgehog-like entanglement of the created virtual electron-positron pairs composed of the Einstein-spacetime components with a source.

We as well cannot formulate useful string/M theory including gravity and quantum physics on base of a simple Planck-size closed string. In reality, the Planck-size objects, i.e. neutrinos, look as a miniature of an active galaxy, for example, the NGC 4261. There is the torus and ball in its centre [1]. The smallest closed strings have size much smaller than the Planck length and are the perfect circles carrying the half-integral spin as well. The cosmic object that appeared after the era of inflation but before the observed expansion of the Universe consisted of torus and ball in its centre also [1]. Similar looks the core of baryons. The similarity follows from the phase transitions of the fundamental spacetime. The torus in the core of baryons is responsible for the strong interactions whereas the ball for the weak interactions. In reality, the fermion-boson symmetry, i.e. the supersymmetry, follows from the phenomena associated with the tori that appeared due to the phase transitions. For example, our early Universe appeared as the cosmic-loop boson inside the cosmic-fermion torus [1]. There are not in existence the postulated s-particles and gauginos. We will discover that the Einstein-spacetime components are the neutrino-antineutrino pairs.

3. Summary

In this paper I showed why unification of the classical GR and the quantum SM is impossible. The term “force” does not mean the same in these two basic theories. The unification of these two basic theories is impossible due to the different properties of the two parallel spacetimes one associated with the GR and the second with SM. Origin of such splitting/bifurcation follows from the internal structure of the Einstein-spacetime components. Since the size of the Einstein-spacetime components is close to the Planck length so the origin of the splitting/bifurcation concerns the sizes smaller than the Planck length. In both theories we neglect internal structure of bare particles so there appear singularities and infinite energies of fields. This causes that within the GR and SM we cannot understand the fundamental differences between classical and quantum theories. The same concerns the string/M theory because this theory starts from wrong initial conditions i.e. objects of the Planck size are not some simple loops/closed-strings. They look as a miniature of an active galaxy, for example, the NGC 4261. There is the torus and ball in its centre. The smallest closed strings have size much smaller than the Planck length and are the perfect circles carrying the half-integral spin as well.

The real supersymmetry, i.e. the fermion-boson symmetry, differs very much from the supersymmetry that leads to the undetected s-particles and gauginos.

References

- [1] S. Kornowski (3 December 2012). “The Everlasting Theory and Special Number Theory”.
<http://www.rxiv.org/abs/1203.0021> [v2].
- [2] S. Kornowski (17 March 2013). “Infinity, Spacetimes and the Origin of Nature”.
<http://www.rxiv.org/abs/1303.0124>.