Why is Fundamental Physics in a Big Crisis?

Sylwester Kornowski

Abstract: Many physicists claim that physics is in crisis but the followers of the dominant theories in physics still accept the unreal/pseudoscientific ideas because they were introduced by great physicists. It is time to give up ideas that contradict common sense.

1. Introduction

Many well-known physicists claim that physics is in crisis but they have no enthusiasm to make radical necessary changes because they concern the pillars of physics, i.e. the general theory of relativity (we can not "stitch" the local and distant Universe via the Hubble constant and we do not know the origin and properties of dark matter and dark energy), quantum mechanics (what physical phenomena have divided mechanics into classical and quantum mechanics?), and quark model of baryons at low energies (we can not calculate the exact properties of the proton such as mass, spin or magnetic moment from the initial conditions for the Standard Model). The problems mentioned in brackets clearly testify to the great crisis in fundamental physics.

The scientific community is still governed by hardcore opponents of significant changes in the name of the principle that you can change so that everything remains the same.

The well-known physicists do not understand that there are independent archives like vixra that publish all ideas, so there are also a few that describe physics correctly. Therefore, sooner or later, such correct papers will discredit the authors and followers of unreal/pseudoscientific ideas in physics. Followers of pseudoscientific ideas today are innumerable. They do harm to physics as much as the Holy Inquisition once did to the church and it will be remembered forever.

How to distinguish better physics from worse? The answer is very simple – better physics is based on fewer initial conditions and leads to more theoretical results consistent with experimental results. Unfortunately, the physicists on whom the shape of physics depends, disregard this simple principle, so we can confidently call such an attitude an unforgivable betrayal of scientific principles in the name of own profits.

2. What do we have to change?

2.1 General thoughts

- **The "zero-energy fields":**

  It is a great demagogy and misunderstanding of physics to demand the components of spacetime in the ground state, i.e. the components of the "zero-energy fields", were

experimentally observed directly because such fields can not transfer any energy to the detector. It is obvious that the frozen energy of the zero-energy fields is about 120 orders of magnitude greater than the observed energy and that the internal structure of such fields must be very reach.

The contribution to the Lagrangian or Hamiltonian from the zero-energy fields in their ground state is zero so theories based on Lagrangian or Hamiltonian are useless to describe internal structure of the zero-energy fields and their latent interactions.

Without a new classical theory describing the transition from the zero-energy fields to their excited states there will be no significant progress in physics and will continue to dominate the unreal ideas proposed by respected physicists.

Emphasize that it is not true that virtual pairs of particles are created in empty space due to some quantum mechanics independent of the rules of classical mechanics.

· **Common sense:**

The greatest damage to physics was caused by ideas that contradict common sense based on classical mechanics and the Galilean transformation. The reason was unreasonable assumption that there are some hocus-pocus phenomena that are not subject to classical mechanics or the hocus-pocus assumption that velocities do not transform according to the Galilean transformation.

Instead of looking for normal explanations of experimental results, scientists preferred to introduce pseudoscientific ideas. Such ideas are mathematically logical but can not be realized by Nature. Nature suggests that we need to restore common sense that is very frequently alien to committed mathematicians who deal with physics.

It is not true that the Michelson-Morley (MM) experiment leads to some hocus-pocus in adding velocities that can be defined by Lorentz transformations.

· **Moving pure energy as a hocus-pocus idea:**

Einstein's formula *Energy* = ***h*** · *frequency* does not suggest that massless energy exists because the Planck constant ***h*** is inertial (i.e. spinning objects have volume), so the electromagnetic field is carried by a zero-energy inertial field. The non-zero volume of carriers of photons and gluons leads to conclusion that singularities are not in existence.

Theories which lead to singularities such as the Big Bang theory or theory of black holes are at least incomplete.

· **Can we unify the general theory of relativity (GR) and quantum mechanics (QM) within the same methods?:**

The experimental results show that the time in QM is absolute while in GR is relativistic, i.e. not absolute. It leads to conclusion that gravitational fields and the Standard-Model (SM) interactions are assigned to different zero-energy fields so unification of GR and QM within the same methods is impossible.

· **Superluminal motions:**

Planck scale is the boundary for theories of matter for which inertial and gravitational masses are the same. But it is obvious that there should be in existence particles/volumes without internal structure so they cannot produce volumetric fields around them. Such particles do not produce gravitational and electromagnetic fields i.e. they cannot be accelerated or decelerated by our devices. Their mean inertial mass and speed are invariant. They interact because of direct collisions. The invariant mean speed is determined only by initial conditions for the inflation so it can be superluminal.

· **Detected fields, energy and matter:**
They are the excited states of the zero-energy fields.

· **The same spin of different masses:**
To understand why spins of particles with different masses may be the same, we must assume that there are phenomena/symmetries that lead to quantized sizes (size scales) of particles and that the half-integral spin is copied in all scales – they must follow from the initial conditions of the inflation field [1].
We can not assume that the bare particles are mathematical points or different vibrations of the same flexible closed strings – such ideas contradict common sense.

2.2 Inflation

· **Matter-antimatter asymmetry:**
Energy of the zero-energy fields is about 120 orders of magnitude higher than the observed energy. It leads to conclusion that due to the high energy density, the matter-antimatter asymmetry is not associated with the zero-energy fields – today, from the components of the zero-energy fields are produced the particle-antiparticle pairs and creation of single fermions is forbidden. The matter-antimatter asymmetry must concern lower densities – at the end of inflation there were produced more baryons than antibaryons. Such asymmetry must follow from some asymmetry of the initial inflation field. I claim that initially the inflation field was left-handed and such left-handedness led to an excess of baryons at the end of inflation because baryons have the left-handed internal helicity [1].
Today, the zero-energy fields are trying to maintain their symmetry so the particles are created as groups in such a way that the total spin, charge and internal helicity are equal to zero.

· **Flatness of the Universe:**
The observed flatness leads to conclusion that density of the zero-energy fields is much higher than the resultant density of the baryonic and dark matter and dark energy and that dynamic pressure in the zero-energy fields is higher than gravitational pressure.

2.3 General Theory of Relativity (GR)

· **Dark matter and dark energy:**
The observed expansion of the Universe was separated in time from the inflation – it leads to properties and abundance of dark matter and dark energy and to additional phenomena that distinguish the local and distant Universe (see [2] and many other papers on vixra).

· **The expansion of the Universe:**
The GR incorrectly describes the expansion of the Universe because it is not true that a photon simultaneously has speed ***c*** in all frames of reference. In reality, the ***c*** is the speed of photons/gluons in relation to frames of reference with which they are entangled.
Photons near the Earth sent to the Earth by galaxies have speeds relative to the Earth from zero to ***c***, but when they are observed by the detector, their measured speed is always ***c*** because the act of observation causes that instead of entanglement of photons with galaxies, the entanglement of photons with the detector is generated.

2.4 Quantum mechanics (QM)

- **A classical background of quantum phenomena:**

  Due to the internal structure of particles [1], spins of particles can not change continuously (this is contrary to classical mechanics) but in a stepwise manner and such a change may be superluminal so the particle responsible for such a change can not be observed directly. This causes the transition from the classical Poisson bracket to the quantum commutator (the so-called canonical quantum procedure). In the second quantization procedure, the creation and annihilation operators of particles are introduced. But let us note that both the first and second quantization result from superluminal classical phenomena. This means that quantum phenomena have a classical background and the strange behaviour of "quantum" particles is the result of the omission of superluminal classical phenomena.

  Let us add that the zero-energy fields, energy, and matter, strive to equalize local densities and global density in the Universe, so in quantum mechanics there are probabilities of finding particles in different states but emphasize that they have a classical background as well.

  The many-worlds interpretation of QM is an idea that contradicts common sense so is not realized by Nature.

Summary

In papers [3] and [4] are described other ideas that contradict common sense, but the list of sins in mainstream physics is much longer. The largest additional discredit in addition to those is the quark model of baryons at low energies and the lack of a theory describing how neutrinos acquire their gravitational mass.

If a fragment of a theory does not describe real changes (i.e. it is non-physical) and only the illusion seen by the observer resulting from the omission of important phenomena because they are invisible, then this pseudoscientific fragment of theory is unnecessary and introduces a mess to physics. Such pseudoscientific fragments in GR or SR are the theory of the expanding Universe, the theory of black holes or backwardness in time. In QM it is the superposition of quantum states and many-worlds interpretation and in particle physics it is the quark model of baryons at low energies but there are many more such pseudoscientific fragments.

We absolutely must restore common sense in physics because the foundation of any theory should be classical mechanics with the Galilean transformation, the assumption that entanglement sets the speed of the photon/gluon $\boldsymbol{c}$ relative to massive objects, and the assumption that resultant speed of the carriers of photons/gluons must be equal to $\boldsymbol{c}$.

Lack of the theory of everything in the mainstream physics causes that the experimental results, as for example resulting from the MM experiment, may have different interpretations, but we should, within the phenomena allowed by classical mechanics, pick out an interpretation that does not contradict common sense. Often this is a difficult task that even the greatest physicists can not cope with because sometimes the intuition needed in physics fails them.

Let us emphasize once again that for any change in Nature only the classical phenomena are responsible, that is, phenomena in line with common sense.

References

[1] Sylwester Kornowski (23 February 2018). "Foundations of the Scale-Symmetric Physics (Main Article No 1: Particle Physics)"
http://vixra.org/abs/1511.0188

[2] Sylwester Kornowski (29 June 2016). “Foundations of the Scale-Symmetric Physics (Main Article No 2: Cosmology)”
http://vixra.org/abs/1511.0223v3
[3] Sylwester Kornowski (6 February 2019). “How Much Time Does It Take…?”
http://vixra.org/abs/1902.0094
[4] Sylwester Kornowski (9 March 2019). “False Physics”
http://vixra.org/abs/1903.0164