

Solution to unsolved problems in physics 2019

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ABSTRACT

First I got an Idea about the reasons of Turbulence. Then I noticed how Earth's rotation has a Thermodynamic background. This removed the Drag and opened thus the possibility to explain the Gravity through Le Sage's original idea. After studying the NASA's observations from thermosphere, even the Heat problem got answered. So Gravity got its explanation through kinetic theory. It was solidified by the Observation how Froude-law apply to planets. There was no mass needed when explaining Gravity. So maybe the whole mass could be left out of physics. And suddenly the Relativity made more sense than before. This opened the road to understanding of Radioactivity. So I finally wrote a paper called "*QED explanation for Gravity and Radioactivity. Theory of Everything*" But as it uses massless concepts which nobody is used to think in physics, it might take many years before it get understood and accepted.

But if it's really a "Theory of Everything", then it should be able to answer all the unsolved problems of Physics. I already noted how it can answer many of them. But in this paper I try to answer to all the "unsolved problems of physics" which were listed in Wikipedia.

And while going through these question, I felt many time a real success of this theory. In this paper these questions are answered as short as it's possible. Just to point out the direction for the reader to go further. The greatest joy was found from Coronal heating Problem, Flyby anomaly, and from Photon underproduction/Space roar problems.

..... Until here, this abstract is the same as in my 2016 paper....

The reason to re-write this paper is the new remarkable input provided by Preston Guynn. He has somehow amazingly being able to find the missing mathematical piece of this puzzle and has found that it's the galactic rotation which explains the "mass". This "thing", now said is somehow obvious, and makes me laugh when I think I was seeking similar connection between the explanation of mass from the dimension of our solar system.

As it now seems, that to be completed this model only needs the enormous work to clean the mass out of physics. I just want to start with something easier and more fun; and what could be more such, than the clarifying these unsolved questions with the completed model.

This paper will only have this list of content and the Abstract, and will that way work as a Opening paper for this project.

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Content;

Abstract

Introduction,

1. General Physics/Quantum Physics

- 1.1 Entropy (arrow of time)**
- 1.2 Interpretation of quantum mechanics**
- 1.3 Yang-Mills theory**
- 1.4 Color confinement**
- 1.5 Physical information**
- 1.6 Dimensionless physical constant**
- 1.7 Fine-tuned Universe**
- 1.8. Quantum field theory**

2. Cosmology and general relativity

- 2.1 Problem of time**
- 2.2 Cosmic inflation**
- 2.3 Horizon Problem**
- 2.4 Origin and Future of the Universe**
- 2.5 Size of Universe**
- 2.6 Baryon asymmetry**
- 2.7 Cosmological constant problem**
- 2.7 Dark Matter / Dark Energy / Dark Flow**
- 2.8 Axis of Evil (Ecliptic alignment of CMB anisotropy?)**
- 2.9 Shape of the Universe**
- 2.10 Largest Structures**

3. Quantum Gravity

- 3.1 Vacuum catastrophe**
- 3.2 Quantum gravity**
- 3.3 Black holes.**
- 3.4 Extra dimension**
- 3.5 The cosmic censorship hypothesis and the chronology protection conjecture**
- 3.6 Locality**

4. High-energy physics /particle physics

- 4.1 Hierarchy problem**
- 4.2 Planck particle**
- 4.3 Magnetic monopoles**
- 4.4 Neutron lifetime puzzle**
- 4.5 Proton decay and spin crisis**
- 4.6 Supersymmetry**
- 4.7 Generations of matter**
- 4.8 Neutrino mass**
- 4.9 Color confinement**
- 4.10 Strong CP problem and axions**
- 4.11 Anomalous magnetic dipole moment**
- 4.12 Proton size puzzle**
- 4.13 Exotic hadrons**
- 4.14 Mu problem**
- 4.15 Koide formula**

5. Astronomy and astrophysics

- 5.1 Astrophysical jet**
- 5.2 Diffuse interstellar bands**
- 5.3 Supermassive black holes**
- 5.4 Kuiper cliff**
- 5.5 Flyby anomaly**
- 5.6 Galaxy rotation problem**
- 5.7 Supernovae**
- 5.8 p-nuclei**
- 5.9 Ultra-high-energy cosmic ray**
- 5.10 Rotation rate of Saturn**
- 5.11 Origin of magnetar magnetic field**
- 5.12 Large scale anisotropy**
- 5.13 Space roar**
- 5.14 Age-metallicity relation in the Galactic disk**
- 5.15 The lithium problem**
- 5.16 Ultraluminous pulsar**
- 5.17 Fast radio bursts**

6. Nuclear physics

- 6.1 Quantum chromodynamics**
- 6.2 Nuclei and nuclear astrophysics**

7. Atomic, molecular and optical physics

- 7.1 Abraham-Minkowski controversy**
- 7.2 Bose-Einstein condensation**

8. Classical mechanics

- 8.1 Singular trajectories in the Newtonian N-body problem**

9. Condensed matter physics

- 9.1 High-temperature superconductors**
- 9.2. Amorphous solids**
- 9.3 Cryogenic electron emission.**
- 9.4 Sonoluminescence**
- 9.5 Turbulence**
- 9.6 Topological order**
- 9.7 Fractional Hall effect**
- 9.8 Liquid crystals**
- 9.9 Semiconductor nanocrystals**
- 9.10 metal whiskering**

10. Plasma physics

- 10.1 Plasma physics and fusion power**
- 10.2 Solar cycle**
- 10.3 Coronal heating problem**
- 10.4 The injection problem**
- 10.5 Solar wind interaction with comets**
- 10.6 Alfvénic turbulence**

11. Biophysics (not included)