

"And God said, Let there be light: and there was light." Genesis 1.3

About this website. What does this website contain?

This website aims to popularize a new approach in physics that would allow the quantification of forces. Quantum mechanics is oriented towards probabilistic predictions expressed elegantly by vector spaces in two or more dimensions with their evolution over time, developed through interactions that lead to disturbances or transformations of space, mathematically expressed, with a certain degree of uncertainty. These expressions translate the *behavior* of the subatomic particles that make up all forms of matter, possibly related to an external observer, with reasonable approximations.

Analytical thinking required another approach in expressing the forms of association and evolution of matter, different from the direction of evolution of quantum mechanics shown above, does not contradict the particle behavior described by quantum mechanics, but presents the great advantage of *quantifying* the interactions. The realization of this quantification is done by bringing all the particles and implicitly the forces to a single common denominator, a unit of matter according to which subatomic particles and fields can be expressed analytically.

The study proposed for consultation aims to identify the smallest possible particle that can exist in the universe. Starting the research from well-known data for different particles at the atomic level, respectively their mass and volume and following for each particle a similar calculation algorithm we could check that regardless of the mass or volume of considered particle, the result obtained is identical in all considered situations, respectively we identified the smallest physically possible particle. Starting from the physical characteristics obtained for this, and performing the verification calculations, I found that it verifies exactly the value of the gravitational constant, but also the value of the elementary electric charge, so the discovered particle is a common element of gravity and electromagnetism. It can only be the graviton, supposed to mediate the gravitational interactions. Moreover, considering each particle identified so far in physics as a condensate of matter composed from a finite number of gravitons, we can provide explanations for the interactions between them and we can bring to a common denominator all types of known forces or interactions, making possible to calculate these interactions. Leaving the quantum world to study the universe, we offer explanations regarding to evolution at a cosmological level, regarding the birth of the universe and matter organization. The proposed theory and the obtained results, verifiable by calculation and observations, lead to an image, complete and perfectly explainable, of the interactions that appear both between particles and between celestial bodies.

Based on the obtained results we can draw logical conclusions about the formation of the Universe, the mode of existence and manifestation of the black holes as well as the gravitational interactions between the celestial bodies.

The page NEW FUNDAMENTAL ELEMENTS OF GRAVITON PHYSICS presents a summary of our much larger study THE GRAVITON PHYSICS. This summary was edited as a brief communication article of our results and was published in Rev. Chim. <https://doi.org/10.37358/Rev.Chim.1949> Chem. Abs RCBUAU 51 (9) 2000, ISSN 0034-7752, p.659.

If you are interested in the subject, we recommend you consult the page THE GRAVITON PHYSICS with our entire study, where you can find more explanations and results.

The website also includes the page INTRODUCTION IN PHYSICS OF TIME with an article which we intend to represent an introduction in *physics of time* and invites the readers to think and contribute in this direction.

Finally, but not the last, the page THE FUNDAMENTAL PHYSICAL CONSTANTS presents an article in which we start from the idea that there is only one particle, the graviton, which is the basis of all matter and all other known particles are nothing but various forms of association or interaction between them. Using this reasoning, then all other known constants such as the value of the gravitational constant "G", the value of the elementary charge "e" or the fundamental force fields should be able to be expressed according to the physical characteristics obtained for graviton. Demonstrate that the characteristics of graviton check and express these constants correctly and conclude that graviton characteristics are itself the fundamental physical constants and can be used to express other known physical constants. We offer a common basis of expression for the gravitational field, the electromagnetic field and the field of nuclear forces.

Of course, as in any work involving calculations and many more, some editing errors may occur. Please communicate them using our contact form at [Contact](#) page. Please also consult the page [Terms & Conditions](#) with details about our conditions.

Finally, I invite you to look over our work.

Marcel Richard Balseanu

October 2017

Acknowledgment

The author thanks to Ph.D. Eng. Marcel Balseanu for his contribution in this research.