

Foreword

The fascinating thing about the universe is its space with the immense micro- and macrocosm size. Not only in the macrocosm between planets, solar systems and galaxies, but also in the microcosm in the atoms and its components is the “empty space” is the decisive element. Therefore, one must first of all understand the “empty” space of which it mainly consists in order to be able to understand the universe as a whole.

It is known that the “empty” space in fact is not empty but contains virtual particles, ominous dark matter and dark energy.

- However, what are the empty space and thus the entire universe?
- What is energy, mass, charge? What do they consist of?
- Why is the speed of light constant?
- Is it possible to derive the constants of nature?
- Does a Theory of everything exist?

Inter alia, we will have a look on these questions and solve some other mysteries of the universe. Thereby, new questions and new mysteries will arise, but we will see that the universe, made up of space, time and energy is made up in an unprecedented form.

The new world model is a theory which currently is in development, some of the results and the "global formula" hereby is published. In this edition, I am handling the key aspects of the new model of the world. Based on equations derived from fundamental physical constants of nature that play a central role in physics, I will demonstrate that it is possible to explain the entire universe with a brief Global formula. With the aid of the global formula, we also will experience how time works and how the three-dimensional space is created.

Many smart people have tried for a long time to derive all physical properties of the universe from a single formula. However so far, all attempts have failed. It seems that the reason for this failure was the imperfection of the existing theories. Viewing the universe from a different perspective and leaving the assigned paths of the previous theories, we at least reach a world model with a global formula. With this book it is demonstrated how to explain the recent recognitions in physics also from another perspective. Accordingly, modern physics is completed and enhanced.

I have not searched for the global formula, I discovered it by chance, just like Archimedes who discovered buoyancy force in the bathtub or Newton, who discovered the gravitational force under an apple tree. Afterwards, I made some calculations with the global formula and have seen with a great astonishment, that the entire universe can be explained with this formula.

Also some problems with previous theories will be highlighted in this book:

- **Newton** believed that it was gravity which holds together the universe. Even today many people believe in this but no one is able to explain what actually causes gravity. Thanks to the Global formula we are able to solve the mystery of gravity and based on the derived gravitational constant we will be able to learn how it works.

- **Einstein** could not exactly explain space and time although his famous theories were based on it. He summarized these as “Space-time” and assumed that the space bended itself. With the global formula we now can reveal the great secrets of space and time.
- **Planck** discovered the quantum of action and accordingly laid the foundation for quantum physics. However, his quantized quantities do include the gravitational constant and are therefore useless, as we shall see in the appropriate section.

But, dealing with the universe, the more clearly one recognizes the outstanding achievements of the researchers at that times of period. They do not lose at any way authority, on the contrary, only thanks to their intellectual achievements; we are now able to continue their scientific heritage. However, every discovery becomes outdated over time through new knowledge, and accordingly, science develops more and more.

The individual chapters and sections in this book are based on each. We will first start with the smallest dimension in the microcosm and, in the penultimate chapter will try to describe some structures in the macrocosm. Since everything in the universe depends on one another, it is inevitable that one can understand much better the new world model and the global formula, after reading the whole book. Because, much more things will be more understandable in the overall context.

Important note:

No original Planck units and their numerical values were used in this book. However, in honor of Max Planck, I have named after him the new quantized sizes/ quantities. The Planck mass, the Planck length, etc. should therefore not to be confused with the original Planck units.