

PREFACE

M A Guerra¹ and H Escalona²

About a century ago, it was already clear that Physics had a lot of flaws that needed to be corrected: Either Maxwell's equations had something wrong in its development or some erroneous side existed in the Galilean Transformations applied to relative motion. These two conceptions fought between them until beginnings of 20th century, because their implications in the whole physics were too deep. The first and longer statement started with the Ether hypothesis (some scientists today remain defending it), in order to put in agreement Maxwell's equations and Galilean Transformations.

Nevertheless, since appearing the Einstein's paper of the Special Theory of Relativity in 1905, preceded by the Lorentz Transformations in 1904, the Michelson&Morley Experiment in 1887 and the last and very precise measurements that leads to consider the speed of light as an universal constant, Ether hypothesis was becoming abandoned. Some years later relativity of space-time unveiled by Einstein in his seminal paper in 1905, began to be seriously considered. This theory started achieving a higher level in the accuracy of measurements of physical magnitudes at speeds close to that of light, posing new and interesting questions about our mere beginning or origin. It would permit to go deep in the analysis of the motion of big masses in space, stars' life, dark matter, black holes, the theory of the big bang, etc. From here had emerged astonishing hypothesis of our creation.

Now, in this first part of 21st century physicists have fell immerse in a big discussion in which they had included metaphysical and philosophical approaches, scientists are becoming to think that the challenge of a re-foundation of physics is again present. The problem is that they are submerged into too much unclear information where fundamentals of physics seems to be being left aside. The sensation that it is needed urgently a universal framework to organize this huge information gave as result, among other efforts, the launch of the Vectorial Theory of Relativity, a theory that in our opinion debugs Einstein's Special Theory, promising to take physicists to the fundamentals again. The most basic concept of mathematical-physics and experimentation always has helped and enabled us to confirm or reject physical ideas lying behind assumptions given as postulates, as it has been the case of many old concepts and currently it is the case of the Lorentz Transformations. The Vectorial-Lorentz-Transformations' paper done by our friend J A Franco R, one of the executive editors of the *JVR*, puts clear what is valid and what is not in Lorentz Transformations (LT). Such result is very relevant because LT is the basis of the Special Theory of Relativity.

Science is emerging and physicists are currently witnessing a wonderful period of renewed research not only in "accepted" concepts but also in new approach of physics itself (see, e.g., all the literature on Alternative Physics). A challenge is always present for scientists.

¹Executive editor of JVR, Caracas, Venezuela, Journal.of.VR@hotmail.com

²Executive editor of JVR, Caracas, Venezuela, Journal.of.VR@hotmail.com