Abstract:

Since in Euclidean and Riemannian continuous smooth geometry a point cannot rotate, it follows then that only a finite length line could rotate. Overlooking this simple evident and trivial point is the cause of most of the troubles associated with the general theory of relativity. Once realized, the situation could be resolved by going in the directions of Cartan-Einstein spacetime but all the way without wavering. The present work which represents also a short survey on the subject combines the mental picture afforded by Cosserat micro-polar spacetime with that of Cartan-Einstein spacetime as well as the Cantorian-fractal spacetime proposal. In the course of doing that we resolve the major problem of dark energy. Various methods are used to validate our main results including 'tHooft-Veltman renormalization method. In particular the 'tHooft-Veltman-Wilson scheme suggests the possibility of two new exotic quasi-particles stemming from the fractal nature of quantum spacetime which resembles a transfinite cellular automata relevant to Auffray’s xonic quantum physics.
different scales, and, postulating that the speed of light is constant, it always turned out to outstandingly predict the experimental results. Nevertheless, physicists suspect that GR is not the most fundamental theory, and that there might exist an underlying quantum mechanical description of gravity, referred to as quantum gravity (QG). For over twenty years we were anticipating that such observation could increase the sensitivity to the LIV effects, but we couldn’t tell by how much until seeing the final results of our analysis.