QUANTUM PROPERTIES OF A GENERAL PATH DEVIATION EQUATION IN THE PAP-GEOMETRY

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A path deviation equation in the Parameterized Absolute Parallelism (PAP) geometry is derived. This equation includes curvature and torsion terms. These terms are found to be naturally quantized. The equation represents the deviation from a general path equation, in the PAP-geometry, derived by the author in a previous work. It is shown that, as the effect of the torsion, on the deviation, increases, the effect of the curvature decreases. It is also shown that the general path deviation equation can be reduced to the geodesic deviation equation if PAP-geometry becomes Riemannian. The equation can be used to study the deviation from the trajectories of spinning elementary particles.

1. INTRODUCTION

In the context of geometerization of physics gravity, as a physical interaction, is well studied and understood . Unfortunately, other interactions are not understood in this context, so far, but they are well described in the framework of the quantization philosophy. There is no satisfactory descriptions of gravity in the context of quantization. In general, there is no unified description, for all known physical interaction. This represents the main problem facing the scheme of unification of physics. Several authors have tackled this problem, very early in the 20th century, in the hope of giving a solution, or at least to find an avenue for a solution, of this problem. In the first half of the 20th century, the attempts of the authors, to solve this problem, were in the framework of geometerization philosophy (e.g. [3], [7], [21]). After the apparent failure of these attempts, authors rushed, in the second half of the 20th century, to the opposite direction especially after the success of unifying electromagnetic and weak interactions (e.g. [4], [6], [20]) in the context of the quantization philosophy. The success in this direction is not continuous, since quantization of gravity is