The Geometric Origin Of Dark Energy

Wanas, M. I.[1]

[1] **Cairo University**
Giza, Egypt

Abstract

In the present work, the possibility of finding a solution of the dark energy problem, in the context of the geometrization philosophy, is discussed. It is shown that geometries, more wider than the Riemannian one, possess a type of curvature, which we call anti-curvature, that can be used to discuss the dark energy problem. It is shown that the anti-curvature tensor is the additive inverse of the ordinary curvature one, so it can produce inverse effects. Einstein has used the curvature of space to describe, successfully, gravity giving rise to an attractive force. It is shown, in the present work, that the anti-curvature of space can be used to describe phenomena resulting from a repulsive force (anti-gravity). It is also shown that repulsion and attraction can be viewed directly from the equation of motion (paths) in such geometries.

***Keywords**: Force & Energy; Curvature, Calculus; Mathematical Analysis; Nonlinear Theories*

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