Some remarks on geometry of fractional calculus

ABSTRACT

In recent years, researchers interested in the field of fractals and related subjects have also begun using the concept of fractional calculus in some of their investigations. In this paper, some interesting aspects and features of fractional connection derivatives in differential manifold were discussed. In particular, transformation of Christoffel symbols for fractional connection, the torsion tensor of a fractional connection, and difference tensor of two fractional connection are presented.

Keyword: Fractional geometrical objects; Fractional manifold; Revised Riemann-Liouville fractional calculus on manifolds