

D-CONCURRENT VECTOR FIELD IN A FINSLER SPACE OF THREE-DIMENSIONS

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Received: 22 Nov 2019

Accepted: 27 Nov 2019

Published: 30 Nov 2019

ABSTRACT

Concurrent vector fields in a Finsler space were first of all defined and studied by Tachibana [9] in 1950, followed by Matsumoto and Eguchi [2] and others. In 2004, Rastogi and Dwivedi [4] studied the existence of concurrent vector fields in a Finsler space of n-dimensions and showed that the definition of concurrent vector fields in its present form is unsuitable. Further, they modified the definition of concurrent vector fields in a Finsler space of n-dimensions. Recently, Rastogi [6], defined and studied weakly and partially concurrent vector fields in a Finsler space of three-dimensions. The purpose of the present paper is to define and study a vector field $X^i(x)$ in F^3 , called D-concurrent vector field, which is based on a tensor D_{ijk} defined and studied by Rastogi [5,7]. We have also defined and studied weakly and partially D-concurrent vector fields of various types and relationship between them.

KEYWORDS: *Concurrent vector, Finsler Space, Three-Dimensions*