

## STUDY OF CERTAIN NEW TENSORS IN A FINSLER SPACE OF THREE-DIMENSIONS

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### **ABSTRACT**

*In one of his earlier papers in (1990), the author [7] has defined and studied several new tensors of second and third order. The author, further in Ref. [9] has defined and studied several properties of asymmetric third order new tensor  $D_{ijk}$ , which is similar to the Cartan's torsion tensor [1],  $C_{ijk}$  of a Finsler space of three dimensions. This tensor, however, satisfies  $D_{ijk} l^i = 0$ ,  $D_{ijk} g^{jk} = D_i = D n_i$ . Based on this tensor, author has defined several other tensors including  $Q_{ijk} = D_{ijk}/0$ , similar to  $P_{ijk}$  and  $\hat{D}_{ijkh}$  similar to third curvature tensor  $S_{ijkh}$ . The purpose of the present paper is to define and study a tensor  $U_{ijkkh}$ , similar to second curvature tensor  $P_{ijkh}$  and  $V_{ijkh}$  similar to a very important tensor  $T_{ijkh}$ , which was introduced independently by Kawaguchi [3] and Matsumoto [5] in (1972).*

**KEYWORDS:** *Finsler Space  $F^3$ , Tensors  $D_{ijk}$ ,  $Q_{ijk}$ ,  $U_{ijkkh}$  and  $V_{ijkh}$*