

## ON SOME NEW TENSORS AND THEIR PROPERTIES IN A FINSLER SPACE-I

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### ABSTRACT

*In (1990), Certain new tensors in a Finsler space were introduced and studied by the author [4]. The purpose of the present paper is to define and study some new and very useful symmetric and skew-symmetric tensors of second and third order in a Finsler space of three dimensions. In the present paper, while studying three dimensional Finsler spaces the author has defined a new symmetric tensor  $D_{ijk}$ , which satisfies  $D_{ijk} l^i = 0$  and  $D_{ijk} g^{jk} = D_i = D n_i$ . Besides defining this tensor and following the definition of C-reducible Finsler spaces Matsumoto [2] the author has further defined and studied D-reducible Finsler spaces. A symmetric tensor  $Q_{ijk}$  based on  $D_{ijk}$  and similar to  $P_{ijk}$  is also introduced and its relationship with other known tensors is studied. Several tensors corresponding to curvature tensor  $S_{ijkh}$  are also studied in  $F^3$ .*

**KEYWORDS:** *Three-Dimensional Finsler Space, D-Tensor, Q-Tensor*