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CARTAN SPACES WITH SLOPE METRIC UNDER h-METRICAL d-CONNECTION

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Abstract: This paper studies Cartan space with Matsumoto metric or slope metric under the effect of h-metrical d-connection. Then we deduce the conditions under which the Cartan space with slope metric becomes locally Minkowski and conformally flat.

Keywords and Phrases: Finsler space, h-metrical d-connection, Cartan space, Conformal flatness, Slope metric.

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1. Introduction

In 1933, E. Cartan [2] proposed the theory of an space known as Cartan space. This space is considered as dual of Finsler space [7]. That is, if we look for dual of any general Finsler space, that dual is nothing but a Cartan space. The affinity between these two spaces, Finsler space and Cartan space, has been studied by F. Brickell [1], H. Rund [10] and others. Igrasi ([3], [4]) was great geometer who first realized the need of (α, β)-metric in Cartan space, i.e., in dual Finsler space. He obtained the metric tensors and invariants, which characterize the special class of Cartan spaces with (α, β)-metric. G. Shankar ([12], [13], [14]), H. G. Nagaraja [8]