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DECOMPOSABLE ON KAEHLERIAN MANIFOLDS OF CONFORMAL RECURRENT CURVATURE TENSOR

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Abstract: Adati and Miyazawa (1967), have studied on a Riemannian space with recurrent conformally curvature and Deszcz (1976), has studied on semi-composable conformally recurrent and conformally birecurrent Riemannian spaces. After then, Negi (2017) have calculated Theorems on almost product and decomposable spaces. In this paper, we define and study decomposition on Kaehlerian manifolds of conformal recurrent curvature tensor and some theorems are established. Also, we have proved that if a Kaehlerian manifold k_n of recurrent conformal curvature is decomposable then the decomposition space Ω_{n-r} is Einstein and if a Kaehlerian conformally recurrent manifold k_n is decomposable then the recurrence vector is a gradient or the decomposition space Ω_r has constant curvature.

Keywords and Phrases: Conformal curvature, Recurrent, Riemannian space and Kaehlerian Manifold

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1. Introduction

A Riemannian space Ω_n is decomposable (Walker 1950), if it is expressed as a product $\Omega_r \times \Omega_{n-r}$ for some r, that is, if coordinates can be found so that it's metric takes the form:

$$ds^2 = \sum_{a,b=1}^{r} g_{ab}dx^a dx^b + \sum_{\lambda,\mu=r+1}^{n} g_{\lambda,\mu}dx^\lambda dx^\mu \tag{1.1}$$