Some Warped Product Submanifolds of a Kenmotsu Manifold

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Abstract

Many differential geometric properties of a submanifold of a Kaehler manifold are conceived via canonical structure tensors T and F on the submanifold. For instance, a CR-submanifold of a Kaehler manifolds a CR-product if and only if T is parallel on the submanifold. Warped product submanifolds are the generalized version of CR-product submanifolds. Therefore, it is natural to see how the non-triviality of the covariant derivatives of T and F gives rise to warped product submanifolds. In the present article, we have worked out characterizations in terms of T and F under which a contact CR-submanifold of a Kenmotsu manifold reduces to a warped product submanifold.