

On Geometry of Real Half Lightlike Submanifolds of Indefinite Kaehler Manifolds with a Quarter Symmetric Metric Connection

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Abstract

We study real half lightlike submanifolds of an indefinite Kaehler manifold with quarter symmetric metric connection. We find a necessary and sufficient condition for the screen distribution of a real half lightlike submanifold to be integrable. We obtain some characterization theorems for a real half lightlike submanifold to be a totally geodesic and a product manifold. We also find conditions for the null sectional curvature of a real half lightlike submanifold of an indefinite complex space form to be vanishes. Finally, we derive the expression for induced Ricci type tensor $R^{(0,2)}$ and obtain conditions for $R^{(0,2)}$ to be symmetric.