

ON GCR-LIGHTLIKE SUBMANIFOLDS OF INDEFINITE KAEHLER MANIFOLDS

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We study generalized Cauchy-Riemann (GCR)-lightlike submanifolds of indefinite Kaehler manifolds admitting a quarter-symmetric non-metric connection. We derive a condition for a totally umbilical GCR-lightlike submanifold of indefinite Kaehler manifolds admitting a quarter-symmetric non-metric connection to be a totally geodesic submanifold. We study minimal GCR-lightlike submanifolds and obtain characterization theorem for a GCR-lightlike submanifold to be a GCR-lightlike product manifold.

MSC: 53B05, 53B30, 53C40

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1. Introduction

Duggal [3] studied Lorentz CR-submanifolds of almost Hermitian manifolds, of complex manifolds and of almost contact manifolds and established relationship between CR-manifolds and Lorentz framed f structures to obtain interaction of Lorentz CR-submanifolds with relativity. In [4], Duggal and Bejancu introduced