

Kaehler Spacelike Submanifolds in an Indefinite Complex Space Form*

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Let $N_p^{n+p}(c)$ ($n \geq 2$) be an $(n+p)$ -dimensional indefinite complex space form of constant holomorphic sectional curvature c and of index $2p$. Let M be an n -dimensional complete Kaehler spacelike submanifold isometrically immersed in $N_p^{n+p}(c)$. In this note, we obtain the following results.

Theorem 1 *Let M be a complete Kaehler spacelike submanifold in $N_p^{n+p}(c)$ ($n \geq 2$). If $c \geq 0$, then M is totally geodesic.*

Theorem 2 *Let M be a complete Kaehler spacelike submanifold in $N_p^{n+p}(c)$ ($n \geq 2$). If $c < 0$, then $0 \leq S \leq -(n+4)pc$.*

Theorem 3 *Let M be a complete connected Kaehler spacelike submanifold in $N_p^{n+p}(c)$ ($n \geq 2$). If $S = -(n+4)pc$ ($c < 0$), then M is totally geodesic pseudosphere product.*

Where S denotes the square of the length of the second fundamental form of M .

References

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