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PROPERTIES OF THE CURVATURE OF KÄHLER-NORDEN MANIFOLDS

ABSTRACT

Let M be a smooth $2n$-dimensional manifold with an almost complex structure J and a pseudo-Riemannian anti-Hermitian metric g, i.e.

$$J^2 = -I, \quad g(JX, JY) = -g(X, Y).$$

If additionaly $\nabla J = 0$, where ∇ is the Levi-Civita connection of g, then the triple (M, J, g) form a Kähler-Norden manifold. A structure of this kind is also called an almost complex structure with B-metric, or an anti-Kählerian structure.

We have considered the classes of Kähler-Norden manifolds with recurrent curvature, recurrent holomorphic projective curvature, or recurrent conformal curvature.

We are also interested in those Kähler-Norden manifolds satisfying the conditions of semisymmetry or more generally the conditions of pseudosymmetry type.