Ricci solitons on CR submanifolds of maximal CR dimension in complex projective space

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Abstract. We study parallel and symmetric second order tensor fields on CR submanifolds of maximal CR dimension of the complex projective space. Under some natural conditions, these tensors are scalar multiples of the metric; an example of submanifold satisfying these assumptions is the geodesic hypersphere in \( \mathbb{P}^{\frac{n+1}{2}}(\mathbb{C}) \). The result is used for Ricci solitons on these CR submanifolds.

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References


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[22] Sharma, R., *Certain results on $K$-contact and $(k, \mu)$-contact manifolds*, J. Geom., 89 (2008), 138–147

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