

Uniqueness results on CR manifolds

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Abstract. In this paper we show the uniqueness of the constant solution to a general Yamabe-type equation on a compact pseudohermitian manifold. The Riemannian version was first proved by Bidaut-Véron and Véron. In another direction, we make use of the vanishing property of two eigenfunctions of the sub-Laplacian to conclude the nonvanishing of the first cohomology group of a compact pseudohermitian manifold. The corresponding version for the Riemannian case was first proved by Gichev.

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