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Isoperimetric inequality on CR-manifolds with nonnegative Q'-curvature

YI WANG AND PAUL YANG

Abstract. In this paper we study contact forms on the three-dimensional Heisenberg manifold with its standard CR structure. We discover that the Q'-curvature, introduced by Branson, Fontana and Morpurgo [**?**] on the CR three-sphere and then generalized to any pseudo-Einstein CR three-manifold by Case and Yang [**?**], controls the isoperimetric inequality on such a CR-manifold. As the first and important step to show this, we prove that the nonnegative Webster curvature at infinity implies that the metric is normal, which is analogous to the behavior on a Riemannian four-manifold.

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