

On the Sobolev quotient in CR geometry

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Abstract

We consider a class of three-dimensional CR manifolds which are modelled on the Heisenberg group. We prove positivity of the mass under the condition that the Webster curvature is positive and that the manifold is embeddable. We apply this result to the CR Yamabe problem, and we discuss the properties of Sobolev-type quotients, giving some counterexamples for Rossi spheres. This is joint work with J.H.Cheng and P.Yang.