

Yamabe problem in 5-dimensional CR geometry

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Abstract

In general, we need positive mass theorem to solve the CR Yamabe problem in the case that the CR Yamabe invariant is positive and the manifold is spherical. If the dimension is bigger than or equal to 7, we were done. In the case of dimension 5, we need an extra condition to show the positive mass theorem. In this talk, we will show that if the manifold, which is of dimension 5, has a spin structure, then the mass is positive. This is a joint work with Professor Jih-Hsin Cheng.