Geometric quantization on CR manifolds

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Abstract

Let $X$ be a compact connected orientable CR manifold of dimension greater than five with the action of a connected compact Lie group $G$. Assuming that the Levi form of $X$ is positive definite near the inverse image $Y$ of 0 by the momentum map and that the tangential Cauchy-Riemann operator has closed range on the reduction $Y/G$, we prove that there is a canonical Fredholm operator between the space of global $G$-invariant $L^2$ CR functions on $X$ and the space of global $L^2$ CR functions on the reduction $Y/G$. This is a joint work with Xiaonan Ma and George Marinescu.