

G -equivariant embedding theorems for CR manifolds of high codimension

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Abstract

Let $(X, T^{1,0}X)$ be a $(2n+1+d)$ -dimensional compact CR manifold with codimension $d+1$, $d \geq 1$, and let G be a d -dimensional compact Lie group with CR action on X and T be a globally defined vector field on X such that $CTX = T^{1,0}X \oplus T^{0,1}X \oplus CT \oplus \mathbb{C}\underline{\mathfrak{g}}$, where $\underline{\mathfrak{g}}$ is the space of vector fields on X induced by the Lie algebra of G . In this work, we show that if X is strongly pseudoconvex in the direction of T and $n \geq 2$, then there exists a G -equivariant CR embedding of X into \mathbb{C}^N , for some $N \in \mathbb{N}$. We also establish a CR orbifold version of Boutet de Monvel's embedding theorem. This is a joint work with Kevin Fritsch and Hendrik Herrmann.