

DEFORMATIONS OF STEIN STRUCTURES AND EXTENSIONS OF HOLOMORPHIC MAPPINGS

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ABSTRACT. Let (X, J) be a Stein manifold, A a closed complex subvariety of X , Y a complex manifold and $f: X \rightarrow Y$ a continuous map such that $f|_A: A \rightarrow Y$ is holomorphic. We prove that there exists another Stein structure \tilde{J} on X and a \tilde{J} -holomorphic map $\tilde{f}: X \rightarrow Y$ such that \tilde{J} is homotopic to J by a homotopy of integrable complex structures on X which is fixed in a neighborhood of A , and \tilde{f} is homotopic to f by a homotopy which is fixed on the subvariety A . When $\dim_{\mathbb{C}} X = 2$ we must in general also change the C^∞ structure on $X \setminus A$.

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