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BOTT-CHERN CURRENTS AND COMPLEX IMMERSIONS

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CONTENTS

0. Introduction. In the whole paper, we will say that $i: M' \to M$ is an immersion of smooth manifolds if M' is a submanifold of M, and if i is the corresponding injection map. In particular the topology of M' is the topology induced by the topology of M. In differential geometry, such maps $i: M' \to M$ are also called embeddings.

Let $i: M' \to M$ be an immersion of complex manifolds, let η be a holomorphic vector bundle on M', let (ξ, v) be a holomorphic complex of vector bundles on M which provides a resolution of the sheaf $i_* \mathcal{O}_{M'}(\eta)$.

We assume that the vector bundle η, the normal bundle N to M' in M and the complex ξ are equipped with Hermitian metrics g^η, g^N, h^ξ. The purpose of this paper is to construct a current $T(h^\xi)$ on M which has three essential properties:

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