

BOTT-CHERN CURRENTS AND COMPLEX IMMERSIONS

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CONTENTS

| | |
|--|-----|
| 0. Introduction | 255 |
| I. Superconnection currents and resolutions of vector bundles | 257 |
| a) A holomorphic chain complex..... | 257 |
| b) Assumption (A) on the Hermitian metrics of a chain complex..... | 258 |
| c) Wave front sets..... | 259 |
| d) Quillen's superconnections..... | 259 |
| e) Double transgression formulas..... | 260 |
| f) Convergence of superconnection currents..... | 261 |
| II. A Bott-Chern current | 264 |
| a) A generalized Bott-Chern current..... | 264 |
| b) The pull-back of the current $T(h^\xi)$ by a transversal map..... | 268 |
| c) Integration along the fiber of the current $T(h^\xi)$ | 270 |
| III. The Bott-Chern current as a finite part | 271 |
| a) The singularity of the Bott-Chern current..... | 271 |
| b) The current $T(h^\xi)$ as a principal part..... | 277 |
| References | 283 |

0. Introduction. In the whole paper, we will say that $i: M' \rightarrow M$ 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 $i: M' \rightarrow M$ are also called embeddings.

Let $i: M' \rightarrow M$ be an immersion of complex manifolds, let η be a holomorphic vector bundle on M' , let (ξ, ν) 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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