

1031-32-41

**Gerardo A. Mendoza\*** (gmendoza@temple.edu), Department of Mathematics, Temple University, Philadelphia, PA 19122. *Characteristic classes of boundaries of compact complex  $b$ -manifolds*. Preliminary report.

A complex  $b$ -manifold is a manifold with boundary together with an involutive subbundle  ${}^bT^{0,1}\mathcal{M}$  of the complexification of Melrose's  $b$ -tangent bundle,  ${}^bT\mathcal{M}$ , such that  ${}^bT^{0,1}\mathcal{M} + \overline{{}^bT^{0,1}\mathcal{M}} = \mathbb{C}{}^bT\mathcal{M}$  as a direct sum. The boundary of such a manifold inherits a structure resembling the circle bundle of a Hermitian holomorphic line bundle over a complex manifold. We will discuss classification theorems concerning these boundary structures when  $\mathcal{M}$  is compact. (Received July 26, 2007)