Título: Connes-Chern Character For Manifolds With Boundary And Eta Cochains

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Precio: $1087.44

Editorial:

Año: 2012

Tema:

Edición: 1ª

Sinopsis

ISBN: 9780821872963

The authors express the Connes-Chern of the Dirac operator associated to a b-metric on a manifold with boundary in terms of a retracted cocycle in relative cyclic cohomology, whose expression depends on a scaling/cut-off parameter. Blowing-up the metric one recovers the pair of characteristic currents that represent the corresponding de Rham relative homology class, while the blow-down yields a relative cocycle whose expression involves higher eta cochains and their b-analogues. The corresponding pairing formulæ, with relative K-theory classes, capture information about the boundary and allow to derive geometric consequences. As a by-product, the authors show that the generalized Atiyah-Patodi-Singer pairing introduced by Getzler and Wu is necessarily restricted to almost flat bundles.