Meeting: 1000, Albuquerque, New Mexico, SS 7A, Special Session on Spectral Geometry

1000-58-46 **Klaus Kirsten*** (klaus_kirsten@baylor.edu), Department of Mathematics, One Bear Place #97328, Waco, TX 76798. *Zeta and eta invariants for chiral bag boundary conditions.*

Let P be an operator of Dirac type on a smooth Riemannian manifold and let f be an auxiliary smooth localizing function. We study the small-t asymptotic expansions of the L^2-traces of fe^{-tP^2} and fPe^{-tP^2} when chiral bag boundary conditions are imposed.

We first show that these boundary conditions define a strongly elliptic boundary value problem; therefore, the above traces have the standard small-t expansion. We then evaluate the leading two boundary contributions in this expansion using functorial techniques and special case calculations. (Received August 05, 2004)