1025-58-10   **Jerome A Jenquin*** (`jjenquin@math.sunysb.edu`), Mathematics Department, Stony Brook University, Stony Brook, NY 11794-3651. *Geometry of the index gerbe.*

Geometric index theory assigns geometric invariants to families of Dirac operaters. The eta-invariant and Quillen's determinant line bundle are examples. Next in line, so to speak, is the index gerbe discovered by John Lott. In this talk we'll discuss a novel presentation of the index gerbe along with refined results for its geometry. (Received October 31, 2006)