

Atiyah-Patodi-Singer index theory II: On some index theoretical invariants

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Abstract:

Studying implications of and dependencies in the index theorem for manifolds with boundary by M. F. Atiyah, V. K. Patodi and I. M. Singer leads to invariants of differentiable or metric structures on manifolds. In this talk we will discuss two invariants of this kind: Firstly, a so-called ρ -invariant, which can be used to distinguish diffeomorphism types, and, secondly, a quite intricate invariant introduced by M. Kreck and S. Stolz that detects connected components in the moduli space of riemannian metrics with positive scalar curvature over certain manifolds.

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