

Generalised Kreck-Stolz invariants for quaternionic line bundles (joint with S. Goette)

In the 1980s Kreck and Stolz defined invariants s_2 and s_3 of 7-manifolds which are η -invariants of the Dirac operator twisted by complex line bundles. In this talk I will present the t -invariant which is defined for certain spin $(4k - 1)$ -manifolds and which is an η -invariant for the Dirac operator twisted by quaternionic line bundles. In dimension 7 the t -invariant is a subtle invariant of spin manifolds and I will discuss some of its application to the differential topology of 7-manifolds