Oberseminar Topologie

Positive scalar curvature and secondary index theory

Rudolf Zeidler

(Münster)

Abstract:

Secondary index theory is the main tool to study topological properties of the space of metrics of positive scalar curvature (psc) on a given manifold. We plan to give an introduction to this area in the context of coarse index theory. We will focus on the higher rho-invariant, a bordism invariant for metrics of psc. We will discuss the psc sequence of Stolz and recall its relation to the analytic surgery sequence of Higson and Roe, as it was established by Piazza and Schick as well as Xie and Yu. Finally, if time permits, we aim explain how to utilize low-dimensional group homology to construct metrics of psc with certain prescribed rho-invariants.

Monday, May 29, 2017, 15:30

MathII 0.101 (Lonza)