

abstract

Analysis Seminar
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

We study conformal invariants that arise from nodal sets and negative eigenvalues of conformally covariant operators, which include the Yamabe and Paneitz operators. We give several applications to curvature prescription problems. We establish a version in conformal geometry of Courant's Nodal Domain Theorem. We also show that on any manifold of dimension $n \geq 3$, there exist many metrics for which our invariants are nontrivial. We prove that the Yamabe operator can have an arbitrarily large number of negative eigenvalues on any manifold of dimension $n \geq 3$. We obtain similar results for some higher order GJMS operators on some Einstein and Heisenberg manifolds. This is joint work with Yaiza Canzani, Rod Gover and Raphael Ponge.