

Twisted Isospectrality

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ABSTRACT

Sunada's famous work transported concepts from number theory ("arithmetic equivalence") to the theory of manifolds, and provided a general group-theoretical mechanism to construct isospectral, non-isometric manifolds. In this talk, we transport more number theory (concerning the characterisation of number fields by L-series) to the theory of manifolds to study how spectra of Laplace operators twisted by representations of the fundamental group may be used to detect isometry of manifolds. (Joint with Nobert Peyerimhoff.)