

GEOMETRIC ANALYSIS SEMINAR

“Dynamical zeta functions and topology for negatively curved surfaces”

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Abstract: For a negatively curved compact Riemannian manifold (or more generally, for an Anosov flow), the Ruelle zeta function is defined as an Euler product over all primitive closed geodesics. Remarkably, this zeta function continues meromorphically to the entire complex plane.

Using recent advances in the study of resonances for Anosov flows and simple arguments from microlocal analysis, we prove that for an orientable negatively curved surface, the order of vanishing of the zeta function at zero is given by the absolute value of the Euler characteristic. In constant curvature this follows from the Selberg trace formula and this is the first result of this kind for manifolds which are not locally symmetric. This talk is based on joint work with Maciej Zworski.

Wednesday, November 9th, 2016
MIT, Room 4-153
Time: 4:00 PM

