UC Berkeley

Analysis and PDE Seminar

Stochastic stability of Ruelle resonances

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Pollicott-Ruelle resonances appear in (long-time) expansions of correlations for chaotic flows. They are typically defined as eigenvalues of the generator of the flow acting on specially designed anisotropic Sobolev spaces. In joint work with Dyatlov we show that they are limits of L^2-eigenvalues of elliptic operators obtained by adding a Laplacian to the generator of the flow. This is based on the microlocal approach to the study of Anosov flows used in our work on the Smale conjecture about dynamical zeta functions. Using the joint work with Nonnenmacher we also show that the spectral gap is uniform for these L^2-eigenvalues.

Monday, September 29
4:10–5pm, 740 Evans Hall