Meeting: 1003, Atlanta, Georgia, SS 4A, AMS-SIAM Special Session on Theoretical and Computational Aspects of Inverse Problems, I

1003-35-1109 **Steve Zelditch*** (zelditch@math.jhu.edu), Department of Mathematics, Johns Hopkins University, Baltimore, MD 21218. *Complex zeros of real ergodic eigenfunctions.* Preliminary report.

Little is known about the nodal (zero) hypersurfaces of eigenfunctions of the Laplacian on Riemannian manifolds. My talk is about the complex zeros of the analytic continuation of eigenfunctions on real analytic Riemannian manifolds to the cotangent bundle. When the geodesic flow is ergodic, I give an exact limit formula for the distribution of complex zeros. (Received October 04, 2004)