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**Steve Zelditch\*** ([zelditch@math.jhu.edu](mailto:zelditch@math.jhu.edu)), Department of Mathematics, Johns Hopkins University, Baltimore, MD 21093. *Can you hear the shape of an analytic drum: higher dimensions.*

In two dimensions, simply connected drums with the symmetry of an ellipse are determined by their Dirichlet or Neumann eigenvalues (for the Laplacian of the flat metric). In this talk I will discuss higher dimensional generalizations. Joint work with Hamid Hezari (Received September 16, 2007)