

Eugenia Malinnikova | Stanford University

Title: Norm inequalities for Laplace eigenfunctions and their gradients

Abstract: The first results on L^p - L^2 norm estimates of Laplace eigenfunctions and more generally spectral projections were obtained by Sogge. We will survey some more recent results of Eswarathasan and Pramanik on restrictions of Laplace eigenfunctions and present new norm inequalities for the eigenfunctions and their gradients obtained in a joint work with Decio. The guiding principle is that eigenfunctions with eigenvalue of order E^2 behave like (harmonic) polynomials of degree E .