

Calderón-Zygmund Analysis Seminar

Monday, Feb 3, 3:45 pm, Eckhart 202

The bounds of nodal sets of eigenfunctions

Jiuyi Zhu (Louisiana State University)

Abstract. Motivated by Yau's conjecture, the study of the measure of nodal sets (Zero level sets) for eigenfunctions is interesting. We investigate the measure of nodal sets for Robin and Neumann eigenfunctions in the domain and on the boundary of the domain. For the analytic domains, we show some sharp upper bounds of nodal sets for Robin and Neumann eigenfunctions on the boundary. We will also discuss some upper bounds of nodal sets for eigenfunctions of some bi-Laplace equations. Furthermore, some sharp doubling inequalities and vanishing order are obtained.