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Joint Geometric Analysis Seminar

(Part of MIST program)

Volume estimates for singular set of elliptic PDEs with Hölder coefficients

Mr. Yiqi Huang
Massachusetts Institute of Technology

Abstract

Consider the weak solution u to the elliptic equation

$$L(u) = \partial_i (a^{ij}(x)\, \partial_j u) + b^i(x)\, \partial_i u + c(x)\, u = 0,$$

there has been extensive study about the nodal set $\{u(x) = 0\}$ and the singular set $\{u(x) = \nabla u(x) = 0\}$ for the equation with weakly regular coefficients. In this talk, I will discuss the volume estimates for these sets with a^{ij} assumed only to be Hölder continuous. It is sharp as it is the weakest condition in order to define the singular set of u according to elliptic estimates. This talk is based on joint work with Wenshuai Jiang.

Date: September 8, 2023 (Friday)
Time: 11:00am-noon
Venue: AB1 502a

All are Welcome