

ICTS Bangalore Probability Seminar (HYBRID)

Title : Almost sharp lower bound for the nodal volume of harmonic functions

Speaker : Lakshmi Priya M.E. (Tel Aviv)

Date : Monday, 30th October 2023

Time : 2:00 PM (IST)

Abstract : In this talk, I will discuss the relation between the growth of harmonic functions and their nodal volume. Let $u : \mathbb{R}^n \rightarrow \mathbb{R}$ be a harmonic function, where $n \geq 2$. One way to quantify the growth of u in the ball $B(0, 1) \subset \mathbb{R}^n$ is via the *doubling index* N , defined by

$$\sup_{B(0,1)} |u| = 2^N \sup_{B(0, \frac{1}{2})} |u|.$$

I will present a result, obtained jointly with A. Logunov and A. Sartori, where we prove an almost sharp result, namely:

$$\mathcal{H}^{n-1}(\{u = 0\} \cap B(0, 2)) \gtrsim_{n, \varepsilon} N^{1-\varepsilon},$$

where \mathcal{H}^{n-1} denotes the $(n - 1)$ dimensional Hausdorff measure

Venue : Chern Lecture Hall & Online

Zoom link: <https://us02web.zoom.us/j/88670406480>

Meeting ID: 886 7040 6480