



THE HONGKONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON APPLIED MATHEMATICS

**Unique and stable determination of the obstacle by
finitely many far-field measurements**

By

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Abstract

In this talk, I will discuss the uniqueness and stability aspects of identifying the obstacles using a finite number of far-field measurements. Uniqueness is primarily contingent upon the unique geometric structure exhibited by Laplacian eigenfunctions near corners. We achieve stable determination of convex polygonal impedance obstacles through a single far-field measurement. Our stability estimates establish explicit relationships between the geometric characteristics of the obstacle and the order of vanishing of the wave field at specific corner points.

Date : 03 January 2025 (Friday)

Time : 10:00am - 11:00am

Venue : Room 4502 (Lift 25/26)

All are Welcome!