THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Principal eigenvalue problem for infinity Laplacian in metric spaces

By

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Abstract

In this talk, we discuss the Dirichlet eigenvalue problem associated to the infinity Laplacian in metric spaces. We provide a direct PDE approach to find the principal eigenvalue and eigenfunctions for a bounded domain in a proper geodesic space with no measure structure. We give an appropriate notion of solutions to the infinity eigenvalue problem and show the existence of solutions by adapting Perron's method. Our method is different from the standard limit process, introduced by Juutinen-Lindqvist-Manfredi (ARMA,1999), via the variational eigenvalue formulation for p-Laplacian in the Euclidean space. Several further results and concrete examples will be given in the case of finite metric graphs. This talk is based on joint work with Ayato Mitsuishi at Fukuoka University.

Date : 12 November 2021 (Friday)

Time : 9:00am

Zoom Meeting : https://hkust.zoom.us/j/98685800264 **(Passcode: 440023)**

All are Welcome!