

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

COLLOQUIUM

Transonic flows and mixed-type problems in gas dynamics and geometry

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Abstract

Transonic flows and mixed-type problems are important issues with a broad range of applications and present challenges in analysis. In this talk, I will first briefly review the basic theory of the Euler equations in gas dynamics. Then I will present results on transonic flows past obstacles, transonic flows within the fluid dynamic formulation of isometric embeddings in geometry, and transonic flows in nozzles. I will discuss global solutions and stability achieved through various techniques and approaches. Outstanding open problems in this area will also be discussed.

Date: April 2, 2026 (Thursday)

Time: 4:30 pm – 5:30 pm

Venue: Room 210, Run Run Shaw
Building, HKU.

All are welcome