THE UNIVERSITY　　　　　　**OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

Geometry Seminar

Steady transonic flows past 2-D wedges for the full Euler equations

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Abstract

Transonic flows arise from various physical phenomena, in particular, the flows around aircrafts at near sonic speed. In this talk, I will focus on Euler equations, which are the most suitable equations to describe shocks in gas dynamics. The equations for steady transonic flows are elliptic-hyperbolic coupled system, as well as of mixed type. The related elliptic equations are often nonstandard, such as involving corner singularities and unboundedness of the domains. I will mainly talk about transonic shocks past 2-D wedges. The shock in the transonic flow is treated as a free boundary between the supersonic and the subsonic regions. We are able to find transonic solutions and to locate the shock-fronts as small perturbations from background states in certain physical regime.

Date:	October 4, 2016 (Tuesday)
Time:	4:00 – 5:00pm
Place:	Room 210, Run Run Shaw Bldg., HKU

All are welcome