For favour of Posting

THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Dynamics of concentrated vorticities in 2D and 3D Euler flows

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Abstract

A classical problem that traces back to Helmholtz and Kirchhoff is the understanding of the dynamics of solutions to the Euler equations of an inviscid incompressible fluid when the vorticity of the solution is initially concentrated near isolated points in 2d or vortex lines in 3d. We discuss some recent results on these solutions' existence and asymptotic behavior. We describe, with precise asymptotics, interacting vortices, and traveling helices. We rigorously establish the law of motion of "leapfrogging vortex rings", initially conjectured by Helmholtz in 1858.

Date : 6 May 2022 (Friday)

Time : 4:00pm

Zoom Meeting : https://hkust.zoom.us/j/96761384440 (Passcode: 085839)

All are Welcome!