ICTS Open Seminar

Title : Bifurcating vortex reconnections: a departure from anti-parallel reconnection

Speaker : Saumav Kapoor (ICTS-TIFR, Bengaluru)

Date : Wednesday, 23 July 2025

Time : 3:30 PM (IST)

Abstract : Helicity is a topological invariant in ideal fluid dynamics, reflecting the knottedness of vortex structures. An important manifestation of helicity conservation is the natural tendency of vortex tubes to become anti-parallel during reconnection. Deviations from this anti-parallel configuration during reconnection are directly linked to helicity dissipation. In this talk, I will present a geometric framework for systematically perturbing vortex initial condition in a way that necessarily disrupts anti-parallel alignment during reconnection. Central to this approach is probing reconnection events in which the reconnecting points on the vortex lines undergo a bifurcation.

Venue : Feynman Lecture Hall
Zoom link: https://icts-res-in.zoom.us/j/95233074587?pwd=uPKX5TnN5hNTRpJDuiSD6kQ7bkNWtI.1
Meeting ID: 952 3307 4587
Passcode: 223322