

Fluids and Space Engineering Seminar

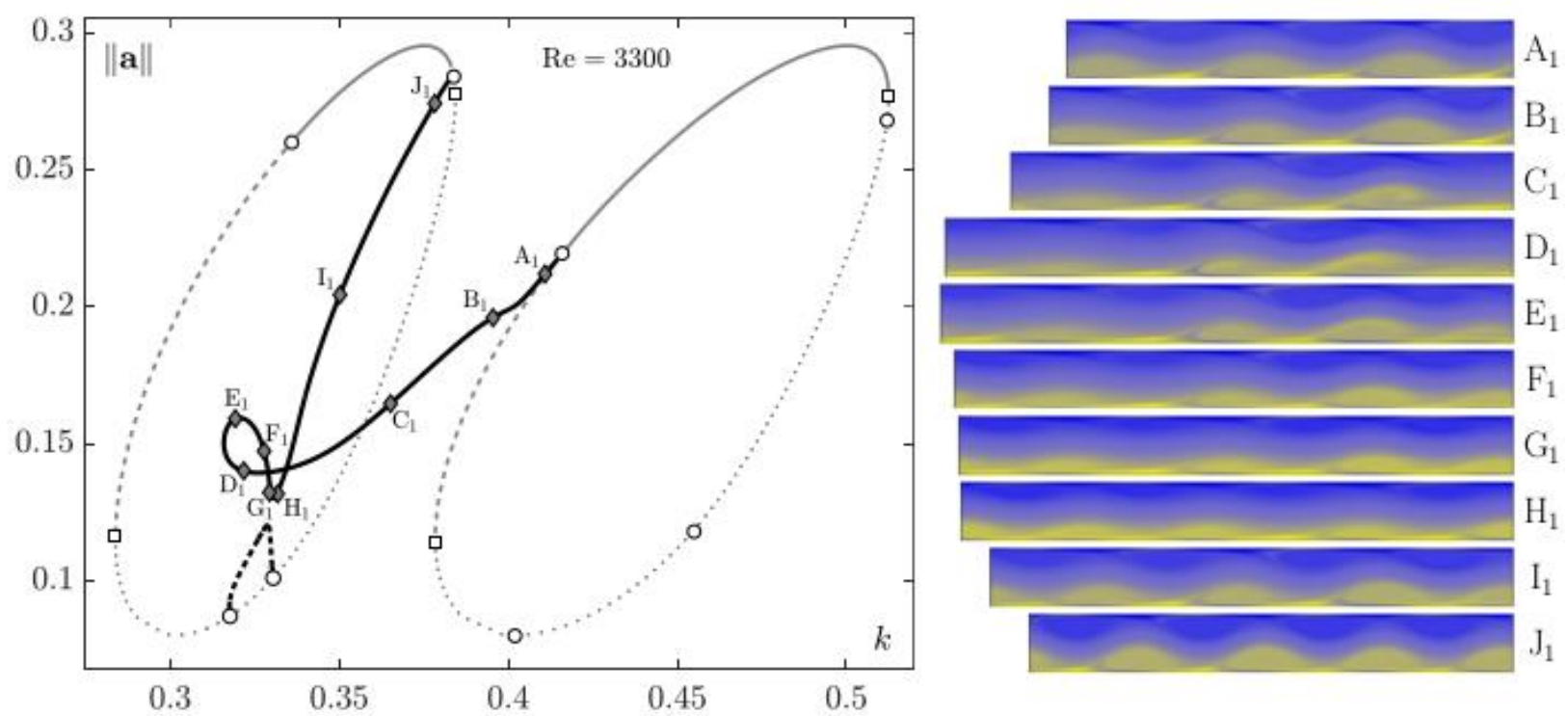
Date: Tuesday, February 4, 2020 at 11:00

Location: ZARM, Room 1280

On the origin of streamwise localization of Tollmien-Schlichting waves

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Transition to turbulence in open shear flows still remains an open classical question of fluid dynamics. For moderate Reynolds numbers, flows in pipes and channels typically exhibit streamwise localized turbulence, where localized turbulence patches travel downstream and coexist with surrounding laminar flow. In this talk we will address certain deterministic bifurcation scenarios that are responsible for streamwise localization of modulated Tollmien-Schlichting waves in plane Poiseuille flow. This approach may shed light on the actual underlying mechanism responsible for turbulence localization.