LINEAR TRANSPORT

Stefano Bianchini

SISSA, Trieste

Lectures

29/06: continuity equation and advective transport, weak solutions, relation between Eulerian and Lagrangian formulation, Lagrangian representation of the solution.

30/06: counterexample to well posedness, mixing estimates.

01/07: $W^{1,p}$-vector fields, uniqueness and regularity of the flow.

02/07: extension to more general vector fields, some open problems and conjectures.

INCOMPRESSIBLE FLUIDS

Pierangelo Marcati

GSSI, L'Aquila

Lectures

29/06: Euler and Navier Stokes, Local existence results in Sobolev spaces, Beale Kato and Majda theorem. Yudovich theory for 2-D problems.

30/06: Inviscid limit, Boundary conditions - Kato property.

01/07: Prandtl type expansion - Analysis of Prandtl equation.

02/07: Shear flows.