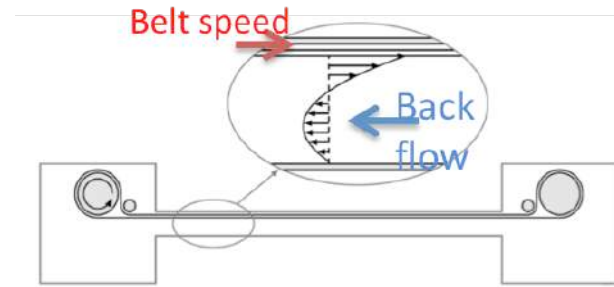
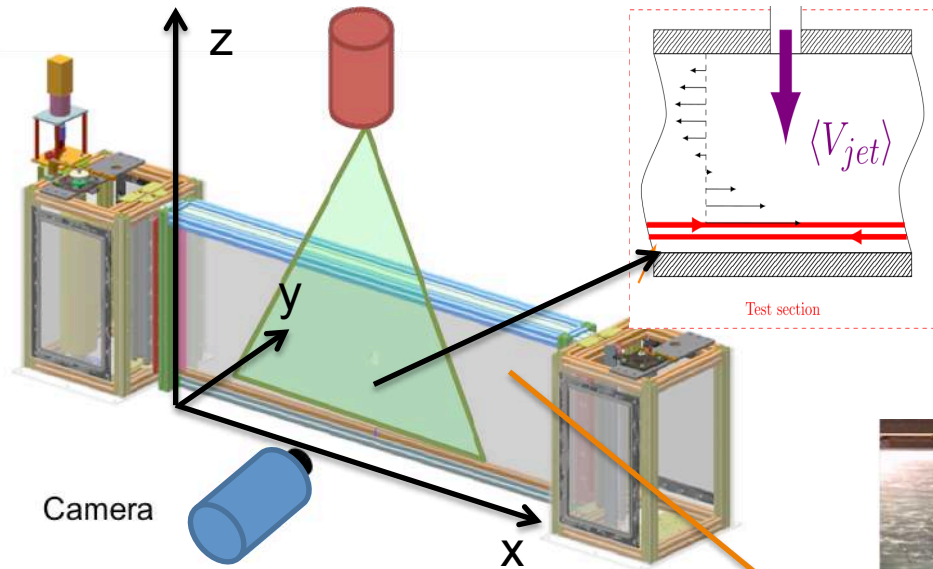


Transition to turbulence in Couette-Poiseuille flow

Tao Liu,

Lukasz Klotz, Alexandr Pavlenko, Benoît Semin, Laurette Tuckerman, Ramiro Godoy-Diana, José Eduardo Wesfreid

PMMH (Physique et Mécanique des Milieux Hétérogènes), ESPCI Paris, CNRS, Sorbonne Université, Univ Paris Diderot
7 quai saint-Bernard, 75005 Paris, France



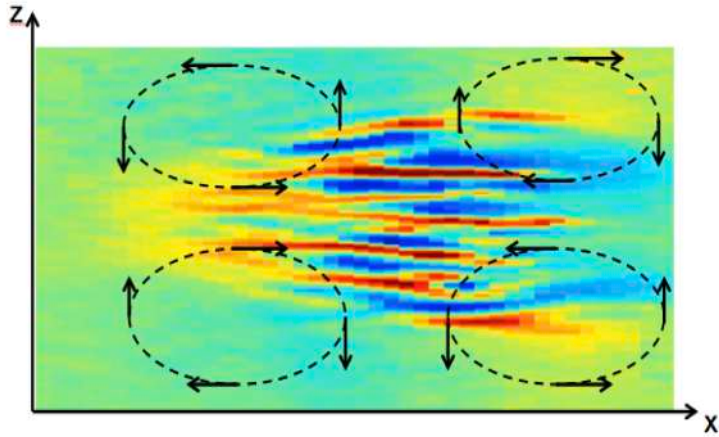
Zero mean advection velocity
Linearly stable at any Re (Sub-critical)

Channel width $2h = 11$ mm
Spanwise dimension = $90h$
Streamwise dimension = $350h$
 $Re = U_{belt} h/\nu$



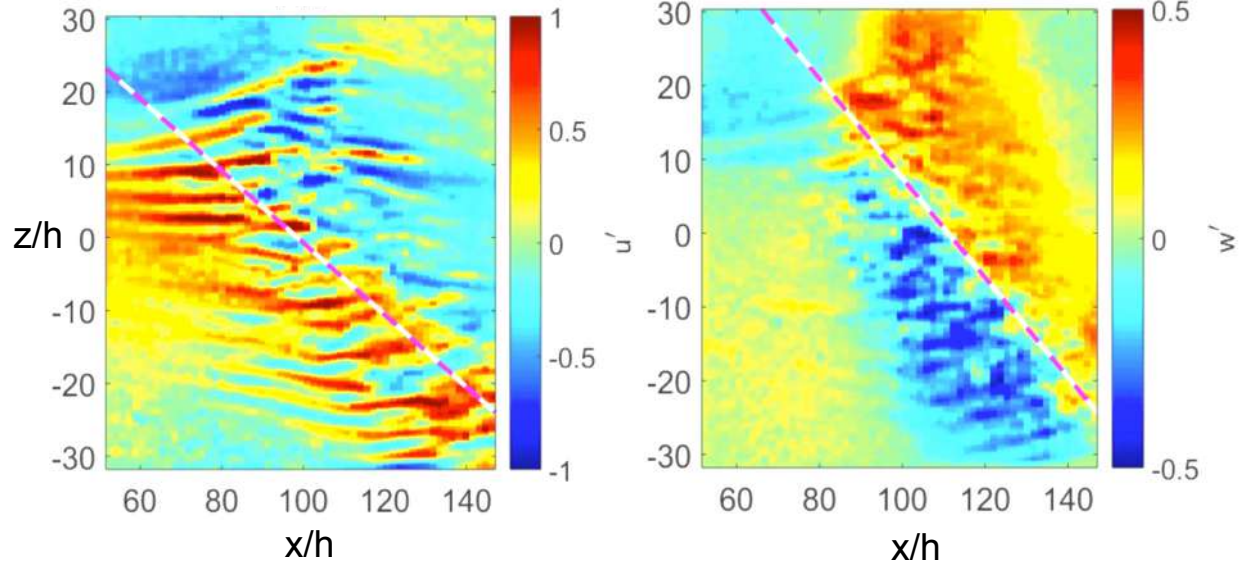
Visualisation

Turbulent spot and Large scale flow



Streamwise (x) velocity fluctuation u'

Laminar-turbulent band



Streamwise (x) velocity fluctuation u'

Spanwise (z) velocity fluctuation w'