

Eugene Wigner Colloquium

joint event of GRK 1558 and SFB 910



Dr. Yohann Duguet

Université Paris-Sud

“Hysteretic turbulence in pipes and channels”

The flow of usual gas or liquids inside circular pipes and plane channels can occur in either a laminar or a turbulent way, with dramatic implications on the energy dissipated by the whole system. Close to the onset of turbulence investigated by Reynolds, these two regimes are known to compete with each other in space, giving rise to fluctuating patterns of turbulence inside a laminar flow. Besides the turbulent regime happens to be metastable and can locally disappear in favour of the stable laminar regime. In this talk I will illustrate this phenomenon by reviewing experimental and numerical approaches, going from the “local” scales (involving a dynamical systems description of the vortical dynamics) to the macroscopic ones (using a statistical description in extended domains), via the “mesoscale” description of the dynamics of localised turbulent patches.

Thursday, 10.12.15 · 16:15h · EW 202

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