SALZBURG MATHEMATICS COLLOQUIUM
Summer 2019

Ulisse Stefanelli (Vienna)

„Navier-Stokes by variational methods"

March 14, 2019

Abstract:

I will present classical and new ideas toward the variational resolution of the incompressible Navier-Stokes system. The aim is here to reformulate the differential systems in purely variational terms, for this paves the way to take advantage of the tools of the Calculus of Variations.

In particular, I will sketch the approach by means of stabilized Weighted-Inertia-Dissipation-Energy (WIDE) functionals. These are parameter-dependent functionals on entire trajectories whose minimization corresponds to an elliptic-in-time regularization of the system. By passing to the limit in the regularization parameter along subsequences of WIDE minimizers one recovers solutions of the differential system.

Time permitting, I will mention some other applications of this variational technique to other dissipative evolution systems.

Thursday, **15:00-15:45**
Hörsaal 414, 1. Stock