Vorticity, Rotation and Symmetry – Stabilizing and Destabilizing Fluid Motion

Main Lectures

C. Bardos
*Instabilities in the incompressible Euler equation*

H. Beirão da Veiga
*Vorticity and regularity for the Navier-Stokes equations*

J.-Y. Chemin
*The problem of global wellposedness for incompressible 3D viscous fluids*

H. J. Choe
*On the Boltzmann equations for mixed molecules*

E. Feireisl
*Asymptotic limits in the theory of viscous fluids*

M. Hieber
*The Fujita-Kato approach to the equations of Navier-Stokes in the rotational setting*

H. Kozono, T. Yanagisawa
*Global DIV-CURL Lemma on bounded domains in $\mathbb{R}^3$*

H. Sohr, R. Farwig
*Necessary and sufficient initial value conditions for local strong solutions of the Navier-Stokes equations*

I. Straškraba
*Recent progress in the mathematical theory of 1D barotropic flow and some historical remarks*
Contributed Talks

H.-O. Bae, K. Kang, J. Lee
Serrin type regularity criterion and time singularity for the non-Newtonian flow

L. C. Berselli
Some geometric constraints and the problem of global regularity for the Navier-Stokes equations

L. Brandolese
Concentration-diffusion effects in viscous incompressible flows

M. Geissert
A free boundary problem related to the spin-coating process

H. Heck
Identification problems for the Stokes equations

T. Hishida, R. Farwig
Asymptotic profile of the steady Stokes flow around a rotating obstacle

H. Kim
On very weak solutions of the stationary Navier-Stokes equations

P. Konieczny
$L_p$-estimates for the Oseen system with slip boundary conditions

P. Kučera
Initial conditions of strong solutions of the Navier-Stokes equations

M. Kyed
On the steady motion of an elastic body moving freely in a Navier-Stokes liquid under the influence of a constant body force

A. Mahalov
Rotating Navier-Stokes equations in $\mathbb{R}_+^3$ with initial data nondecreasing at infinity: The Ekman boundary layer problem

S. Monniaux
The Hodge-Navier-Stokes equations in bounded Lipschitz domains

J. Naumann, P.-É. Druet
On the existence of weak solutions to a stationary Navier-Stokes system coupled with an equation for the turbulent kinetic energy

Š. Nečasová, E. Feireisl, M. Hillairet
On the motion of several rigid bodies in an incompressible non-Newtonian fluid
A. Novotný
Low Mach number limits in the thermodynamics of compressible fluids

H. Petzeltová, E. Feireisl, K. Trivisa
Multicomponent reactive flows: Global-in-time existence for large data

K. Pileckas
Properties of solutions to the Stokes problem in parabolically growing layer

Y. Raudin, Ch. Amrouche
Elliptic problems in the half space

R. Rautmann
A direct approach to the vorticity transport & diffusion equation

J. Renclawowicz, W. M. Zajączkowski
Large time regular solutions to the Navier-Stokes equations in cylindrical domains

O. Sawada
Existence and regularity of solutions to the rotating or straining flows in the whole space

A. L. Silvestre
On the Navier-Stokes equations around a rotating obstacle

Ch. G. Simader
A further property of the Cosserat operator and its application to regularity of weak solutions of Stokes’ problem and related equations

Z. Skalák
Asymptotic dynamics of frequencies in global strong solutions of the Navier-Stokes equations

M. Specovius-Neugebauer, S. Nazarov
The approximation of stationary flows in perturbed layers

T. Takahashi, M. Hillairet
Collisions in 3D fluid structure interactions problems

W. Varnhorn
On approximate approximations for the Stokes boundary value problem

J. Wolf
On the boundary regularity for suitable weak solutions to the non-stationary Navier-Stokes equations beyond Caffarelli, Kohn and Nirenberg

M. Yamazaki
The stationary Navier-Stokes equation on the whole plane for external force with antisymmetry