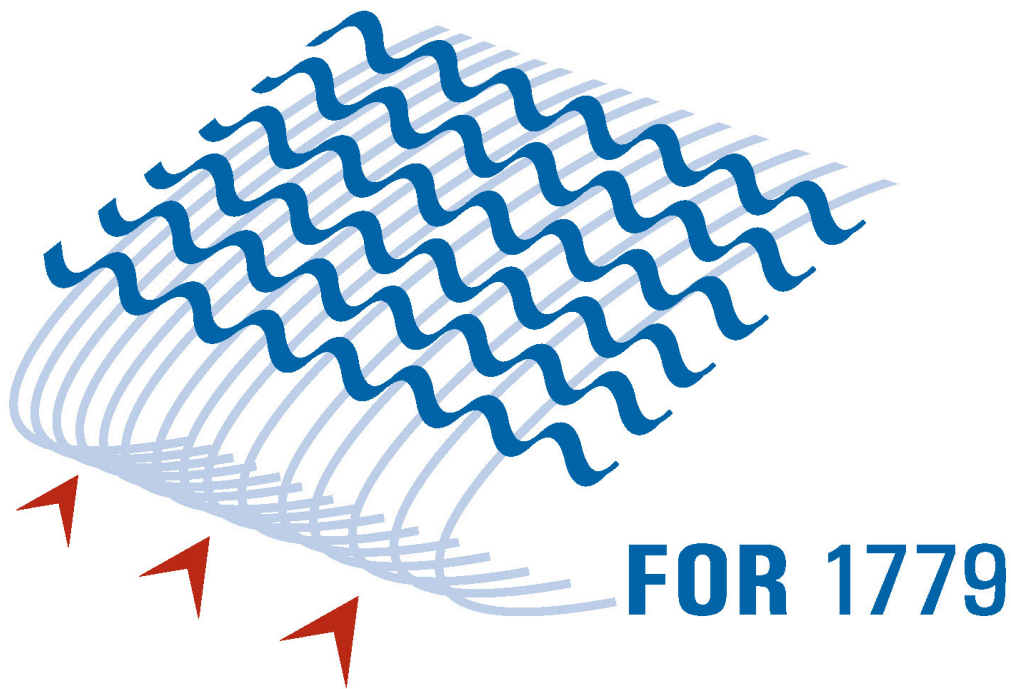


FOR 1779 Symposium

Active Drag Reduction via Wavy Surface Oscillations

Aachen, Germany, 20-21 February 2014

An interdisciplinary symposium organized by the DFG funded research group FOR 1779, RWTH Aachen University and Forschungszentrum Jülich



The symposium will be held at the NOVOTEL Aachen, Peterstrasse 66, 52062 Aachen, Germany

Organizing Committee:

Prof. Wolfgang Schröder (RWTH Aachen), Prof. Dirk Abel (RWTH Aachen),
Prof. Wolfgang Dahmen (RWTH Aachen), Prof. Siegfried Müller (RWTH Aachen),
Prof. Gerhard Hirt (RWTH Aachen), Prof. Tilman Beck (FZ Jülich),
Prof. Lorenz Singheiser (FZ Jülich), Dr. Stefan van Waasen (FZ Jülich),
Dr. Michael Schiek (FZ Jülich).

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Thursday 20 February 2014

- 8:30 - 8:45 Welcome (W. Schröder)
- 8:45 - 9:20 Y. Zhou (Shenzhen Graduate School, Harbin Institute of Technology)
Surface-perturbation-based drag reduction in a turbulent boundary layer
- 9:20 - 9:55 W. Jessen, D. Roggenkamp, W. Li, M. Klaas, W. Schröder (RWTH Aachen)
Experimental investigation of friction drag over moving surfaces
- 9:55 - 10:30 K-S. Choi (University of Nottingham)
Spanwise travelling waves for turbulent skin-friction drag reduction
- 10:30 - 11:00 Coffee Break
- 11:00 - 11:35 P. Meysonnat, M. Meinke, W. Schröder (RWTH Aachen)
Numerical investigation of friction drag via transversal wavy surfaces motions
- 11:35 - 12:10 M. A. Leschziner (Imperial College London)
On the turbulence physics underpinning friction-drag reduction by oscillatory wall motion - lessons derived from DNS
- 12:10 - 12:45 S. Chernyshenko (Imperial College London)
Recent progress in theoretical research on turbulent drag reduction
- 12:45 - 13:45 Lunch
- 13:45 - 14:20 N. Goldin, R. King (TU Berlin)
Active drag reduction in laminar flows using direct and biomimetic methods
- 14:20 - 14:55 L. Pyta, D. Abel (RWTH Aachen)
Reduction of friction drag in subsonic flow via feedback control
- 14:55 - 15:30 O. Stalnov (University of Southampton)
Utilizing AFC technology to improve aerodynamic performance: feasibility and application
- 15:30 - 16:00 Coffee Break
- 16:00 - 16:35 H. Mayer (Boku, Institute of Physics and Material Science)
VHCF properties of aluminium alloys measured with ultrasonic testing equipment
- 16:35 - 17:10 S. Stille, T. Beck, L. Singheiser (FZ Jülich)
Very high cycle fatigue behavior of riblet structured Al 2024 thin sheets

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Friday 21 February 2014

- 8:30 - 9:05 E. Friedmann (Department of Applied Mathematics, University Heidelberg)
Drag predictions for rough surfaces from homogenized near-wall models of turbulent flow
- 9:05 - 9:40 G. Deolmi, S. Müller, W. Dahmen (RWTH Aachen)
Effective boundary conditions for Compressible Flows over Rough Boundaries
- 9:40 - 10:10 C. Nae (National Institute for Aerospace Research, Romania)
Drag reducing effects using piezo-actuators in transonic flows
- 10:10 - 10:45 M. Schiek (FZ Jülich)
New actuating systems and real-time network simulation for distributed surface actuation
- 10:30 - 11:00 Coffee Break
- 11:15 - 11:50 I. Gradert, O. Rohr (Airbus, EADS)
Multifunctional Coatings for Low Drag Aircraft
- 11:50 - 12:25 J. Pöplau, M. Bambach, G. Hirt
Riblet rolling of metallic sheets - influence of process parameters on the riblet geometry
- 12:25 - 13:00 J. Zettler (Apworks)
Advanced forming technologies for next generation aircrafts
- 13:00 - 14:00 Lunch

Location:

NOVOTEL Aachen
Peterstrasse 66
52062 Aachen, Germany

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www.aia.rwth-aachen.de/adr/symposium