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Institut für Fluiddynamik: Prof. P. Jenny, Prof. T. Rösgen
Computational Science & Engineering Laboratory: Prof. P. Koumoutsakos

05/08/2016

E I N L A D U N G

zu einem Vortrag im Rahmen des

Kolloquiums Thermo- und Fluiddynamik

und des

ERCOFTAC Visitors Programme

Datum: **Mittwoch, 24. August 2016**

Zeit: **16:15 Uhr**

Ort: Maschinenlaboratorium ETH Zürich
Hörsaal ML H 44

Referent: **Prof. Hans Hornung**
Graduate Aerospace Laboratories, Caltech, Pasadena, USA

Titel: **Oblique Shock Reflection from an Axis of Symmetry**

Regular shock reflection from an axis of symmetry is forbidden, because the incident-shock strength increases with decreasing distance from the axis. Examples of where shocks reflect from symmetry axes occur in practice will be shown. These include shock reflection at the shock tube end of a reflected shock tunnel, diffraction of a shock from a heavy bubble, rocket nozzle exhausts and scramjet intakes. They motivate theoretical considerations and numerical experiments to be used for studying the reflection of an initially conical shock. One of the forms of this problem is in the class of pseudosteady flows, in which all characteristic lengths increase linearly with time. It turns out that three different Mach reflection configurations can occur, two of which feature an embedded supersonic vortex. The three configurations of Mach reflection also occur in the steady-flow problem of a circular overexpanded supersonic jet, such as in a rocket nozzle exhaust, in which the shock wave from the lip of the jet reflects off the axis. In this case two of the configurations turn out to be oscillatory, and the embedded supersonic vortex can provide positive feedback that leads to hysteresis when the back pressure is varied in different directions.

Host: Prof. P. Jenny

Gäste sind willkommen!

Weitere Informationen: http://www.ifd.mavt.ethz.ch/events/ktf/ktf-records.html
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