

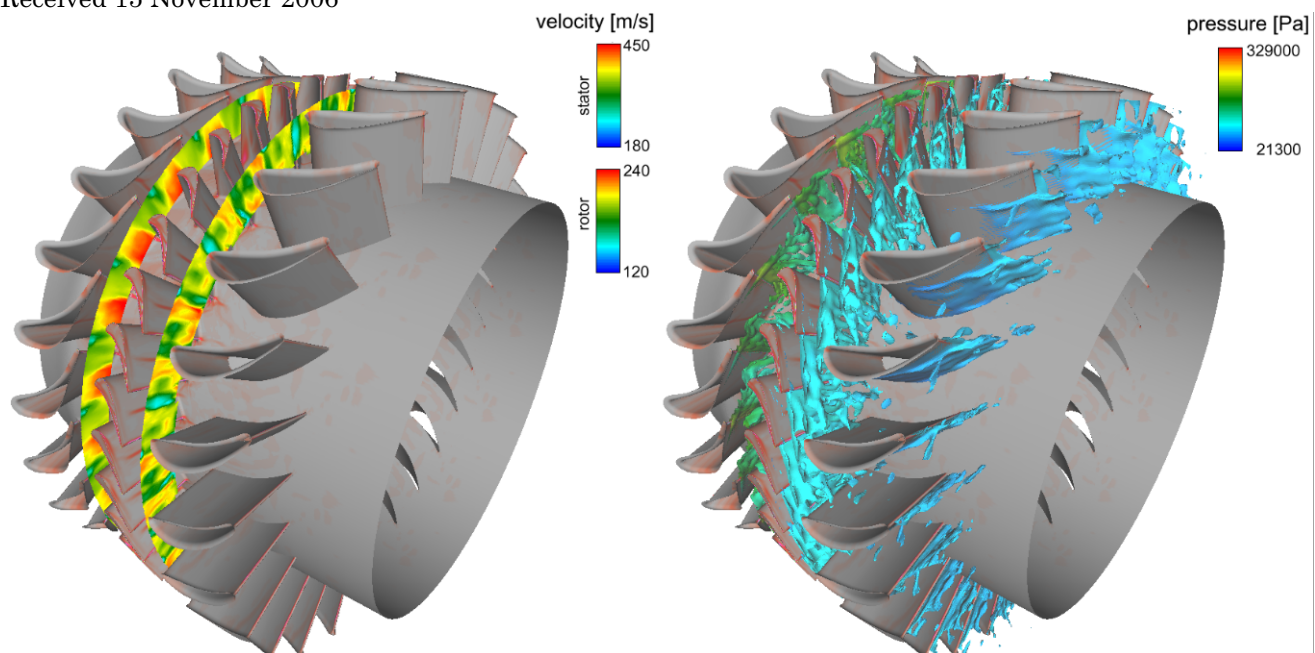
Laser-Optical Investigation of Stator-Rotor Interaction in a Transonic Turbine

Woisetschläger, J.* , Pecnik, R.* , Göttlich, E.* , Schennach, O.* , Marn, A.* , Sanz, W.* and Heitmeir, F.*

* Institute for Thermal Turbomachinery and Machine Dynamics, Graz University of Technology, Inffeldgasse 25A, A – 8010 Graz, Austria.

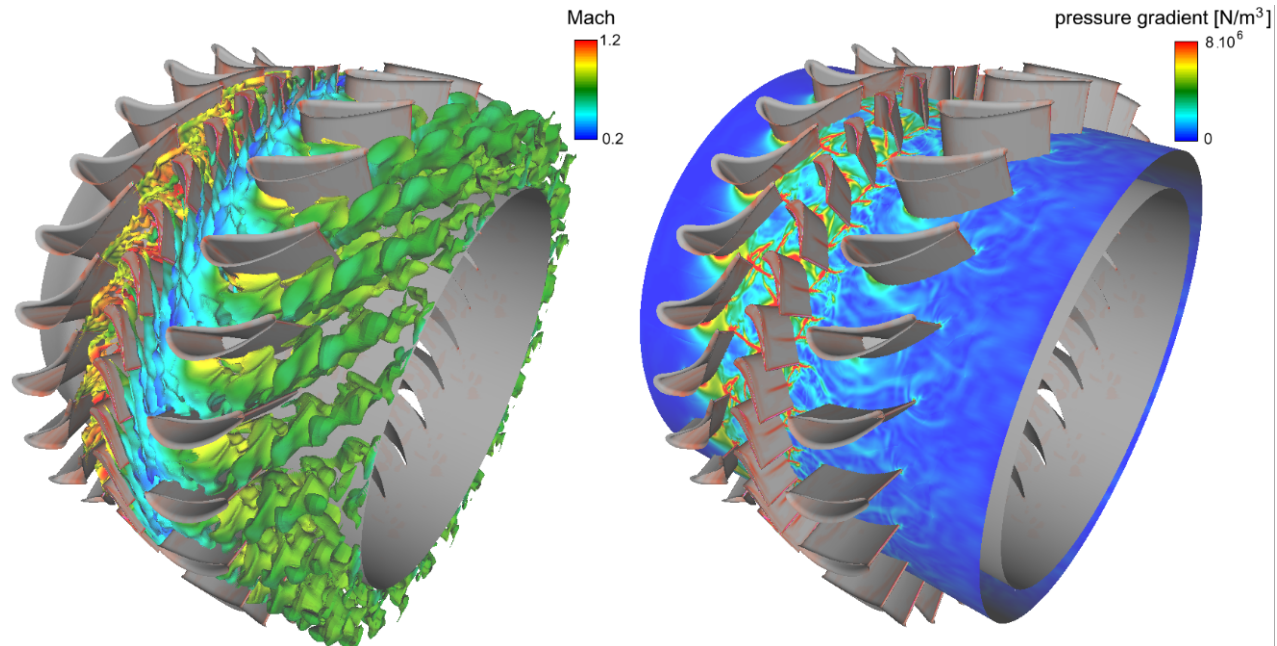
E-mail: jakob.woisetschlaeger@tugraz.at, <http://www.ttm.tugraz.at>

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Velocity (LDV, PIV).

Iso surface of vorticity, color shaded by pressure (CFD).



Iso surface of entropy, color shaded by Mach number (CFD).

Pressure gradients (CFD).

These figures show experimental data recorded by laser-optical techniques and numerical data obtained by Computational Fluid Dynamics (CFD), both visualizing the flow through a transonic turbine operating at app. 10600 rpm. While Particle Image Velocimetry (PIV) and Laser Doppler Velocimetry (LDV) record velocity, flow angle and vorticity, CFD presents additional key quantities. Among them are Mach number, pressure, vorticity measuring the strength of secondary flows, entropy related to loss generation, and pressure gradients visualizing shocks.