

■ Simulation (CFD/FEM)

□ Experiment

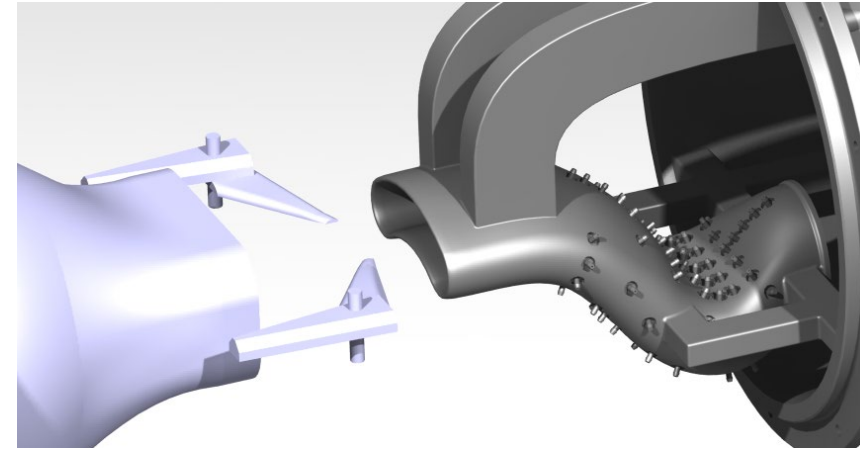
■ Konstruktion

□ Theorie

Adaptable Vortex Generation System

Motivation:

The interaction of flow, generated by an aircraft body, the intake system inflow and the downstream compressor can have unexpected limiting impact on the manoeuvre performance of airplanes. Therefore, the Institute of Jet Propulsion set up a test environment to investigate such interaction effects without the need for dedicated airplane designs. The concept relies on generic modelling of boundary conditions and forebody flow including pressure disturbances, angle of attack and bank angle variations, as well as inflow velocity.



Objective:

Beside the named parameters contributing to the flow interaction around an engine intake, modern systems comprise vortex induced highlift systems. To be able to generically investigate the impact of such vortices on the inlet flow, as well, a design of adaptable vortex generators shall be elaborated in this work. Besides the mechanical concept, the work can include flow simulation aspects to support the experimental design.

Relevant experience in CAD and CFD is desirable, but not mandatory. The applicant shall have a strong dedication to aerospace technology and engines.

Beginn: Ab sofort

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