DEPARTMENT OF MECHANICAL & AEROSPACE ENGINEERING
WILLIAM MAXWELL REED SEMINAR SERIES

"Compressibility considerations in hybrid modeling of hypersonic turbulent boundary layers The High Enthalpy Flow Diagnostics Group - challenges and selected results"

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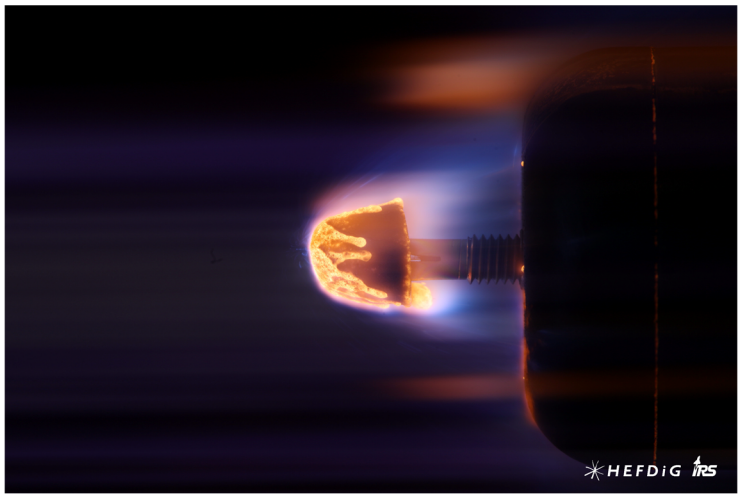
Abstract:
The High Enthalpy Flow Diagnostics Group (HEFDiG) at Institute of Space Systems of the University of Stuttgart is focusing on the experimental exploration of re-entry flows. We develop suitable diagnostic methods for the detailed investigation of ablation, radiation and other high-enthalpy flow field features apply such sensor systems and other state-of-the-art techniques for a comprehensive understanding of the ground testing flow field. The plasma wind tunnels at the institute provide high enthalpy air, CO2, and H2/He flows for the investigation of future re-entry missions to Earth and entry missions to Mars or Neptune and Uranus. We participated in many flight observation missions, the latest one being the observation of the OSIRIS-REx re-entry. The talk will present the challenges we are facing in these environments will present some selected results and an insight into our part of the OSIRIS-Rex flight observation mission.

Speaker Bio:
S. Loehle has a German engineering degree and PhD from the University of Stuttgart, was a Post-Doc at the University of Bordeaux and the German Aerospace Center and started HEFDiG in 2010. The group consists currently in 5PhD students and 3Post-Docs. The research focus is on optical diagnostics, heat flux gage development and flight observation instrumentation.



Date: Friday, February 2, 2024
Time: 3:00 PM EST
Place: Whitehall Classroom Building 110
Contact: Dr. Jonathan Wenk

Attendance open to all interested persons

College of Engineering

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