DEPARTAMENTO DE FÍSICA

UNIVERSIDAD DE SANTIAGO DE CHILE

SEMINARIO ONLINE

Mi 20
OCTUBRE
11.00 Hrs.

HIGH-SPEED AERODYNAMICS RESEARCH AT UTSA

Dr. Christopher S. Combs

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ABSTRACT

The continued development of non-intrusive diagnostics will be critical to the advancement of the state-of-the-art in high-speed aerodynamics research. Realizing the high-speed capabilities that have become an elevated national priority such as sustained hypersonic flight, atmospheric reentry, commercial supersonic flight, and air-breathing propulsion will require measurements at high-speed and high-enthalpy conditions that are currently difficult or impossible to make. Moreover, measurements in high-enthalpy and reacting flows are in increasing demand given the DoD's push for research in hypersonics. Recent advances in imaging and laser technology—such as cheaper high-speed cameras, development of plenoptic cameras, and advances with pulse-burst lasers—have increased the potential capabilities for non-intrusive diagnostics. At UTSA, Dr. Combs works to reveal new insights into fluid physics related to aerodynamics by developing and implementing state-of-the-art non-intrusive diagnostics to challenging flow environments such as supersonic, hypersonic, high-enthalpy, and reacting compressible flows. Here, a review of recent diagnostics developments will be presented on a variety of active high-speed research topics. An overview of the new Mach 7 wind tunnel facility at UTSA will also be provided.

Meeting ID: 884 8548 0951

Passcode: 654526

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