COMBUSTION SCALING OF AN AXISYMMETRIC INLET FUELLED RADICAL FARMING SCRAMJET ENGINE

Scramjet engine research and development relies on ground based experiments to develop insight into engine behaviour and performance prior to proceeding to flight tests. Experimental facilities however limit the size of ground test models to length scales smaller than practical operational engine designs. The ability to effectively scale engine characteristics is an important tool in scramjet engine development.

RHD Final Seminar Program

This seminar presents the findings of a study into an inlet fuelled axisymmetric radical farming scramjet engine behaviour and the geometric length scaling behaviour of the same class of engine.

Key outcomes of the study include an understanding of how to scale small ground test engine behaviour and performance to that of a full scale flight test engine, in both atmospheric flight plain air and experimental facility contaminated air environments.

The approach of this study incorporated ground based shock tunnel experiments performed in Germany and Japan, as well as a series of computational fluid dynamic simulations.

Daniel Oberg
Daniel graduated from the University of Queensland in 2008 with a Bachelor of Engineering majoring in Mechanical and Space Engineering. He spent the next year and a half studying at Nanzan University, Nagoya, Japan. He commenced his PhD studies at the University of Queensland’s Centre for Hypersonics in September 2010.

Date
Friday, 30th May 2014
Time
3 - 4pm
Room
49-502
Location
Advanced Engineering Building, UQ

School of Mechanical and Mining Engineering
www.mechmining.uq.edu.au

All interested persons are invited to attend. The seminar is free of charge.

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