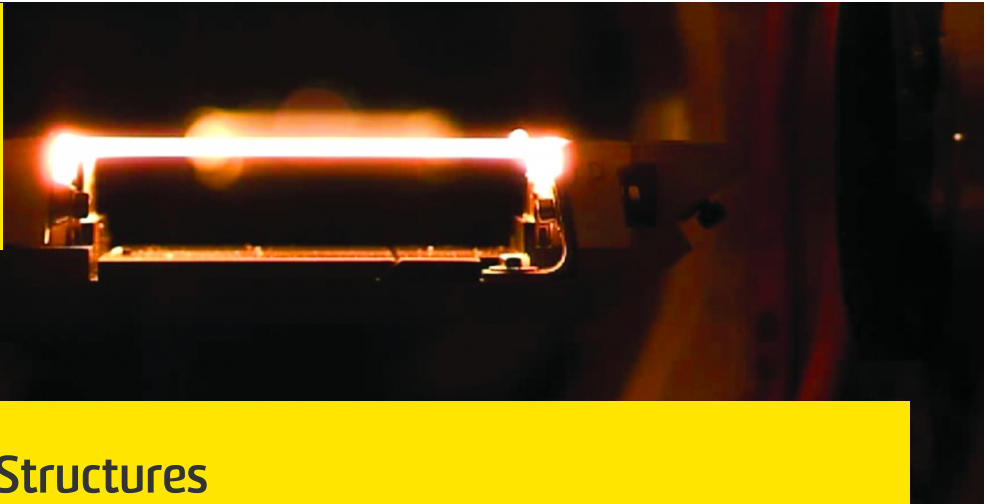




UNSW
SYDNEY



Hypersonic Vehicle Structures

Developing, validating and testing structural designs, components and materials to operate in the extremes of hypersonic flight.

Competitive advantage

- Unique in-house expertise in the design and testing of aerostructures to withstand the extreme conditions experienced by a vehicle during hypersonic flight
- Expertise extends to both the development of numerical tools as well as the experimental methods to predict and measure the performance of structures, sub-components and materials exposed to hypersonic flight conditions
- Measurement and test technologies cover both ground-based measurements and in-flight measurements

Impact

- Test and prediction technologies enable the increase in TRL of structural designs, sub-components and high temperature materials by exposing them dynamically to the thermal-structural conditions representative of hypersonic flight. This leads to the optimisation of vehicle designs and reduction in the requirement for expensive flight testing

Successful applications

- Expertise and technology has been successfully applied to the design and evaluation of aerostructures and subcomponents for the HyCAUSE (DARPA/AFRL/Defence Science and Technology (DST)), SCRAMSPACE (UQ-led consortium) vehicles and the onboard measurement of thermal-structural performance in-flight under the HIFiRE (DST/AFRL) and HEXA

More Information

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