

A laser induced ignition system developed for Scramjet engines and other gaseous flows.

The Technology

The development of scramjet technologies has suffered from the need to improve reliability and reduce ignition speeds and temperatures. Various methods of ignition have been used to overcome these issues, for example high energy electrical arcs, each of which raises new issues such as energy consumption. Research at UNSW's Australian Defence Force Academy has developed a highly controllable, relatively low energy ignition system for gaseous fuel using a directed laser.

Key Benefits

- Low energy input relative to current methods
- High temperature output Relative to current methods
- Highly controllable
- Enhanced combustion occurring at lower temperatures
- Improved reliability and minimum operating conditions for the engine

Applications

- Scramjet engine development.
- Other gas turbine/combustion systems where reduction of ignition temperature, energy requirements or reliability are beneficial.

Commercial Opportunity

This technology is available as an Easy Access licence to companies and individuals and is one of our associated scramjet capability portfolio of technologies. Other scramjet technologies also include an advanced fuel additive system, also available under our Easy Access IP program, and a hypersonic air speed sensor.



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