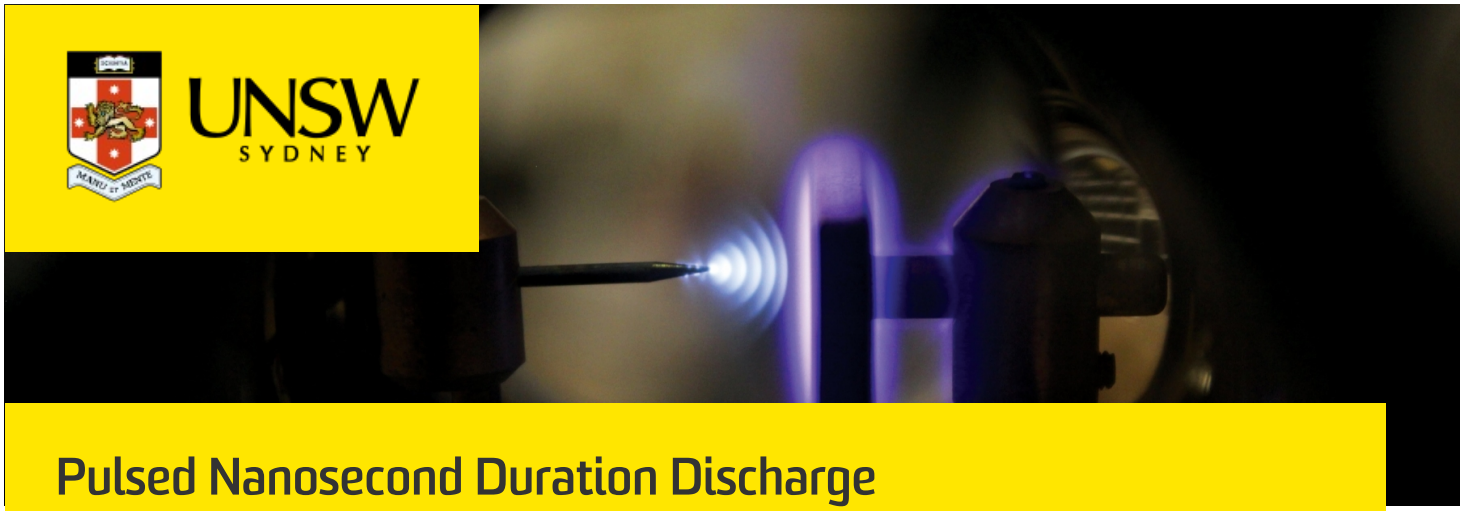

Pulsed Nanosecond Duration Discharge

Nanosecond-duration plasmas for a range of engineering applications.

Competitive advantage

- Technologies developed for the generation of nanosecond-duration plasma discharges. These plasmas can operate at very high voltages while maintaining cold plasma characteristics, as the pulse duration is too short for the plasma to transition to a spark under some conditions
- Laser-based diagnostics capable of nanosecond or shorter duration measurements of species concentration, temperature and electric field strength have also been developed

Impact

- These devices have a range of possible applications, including
- Fuel ignition systems
- Sterilisation of medical equipment, foods and liquids
- Destruction of contaminants in water
- Thin film deposition technologies

Successful applications

- Built and characterised nanosecond repetitively pulsed power supplies
- Measurements of temperature and species concentration during and immediately after the pulsed discharge occurs

Capabilities and facilities

- D1.5 nanosecond commercial pulser
- 80+ nanosecond variable duration pulser developed in-house

More Information

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