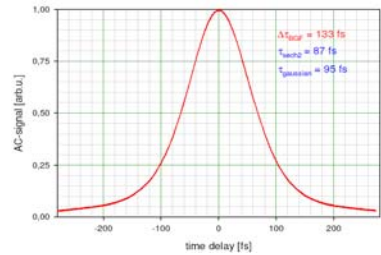
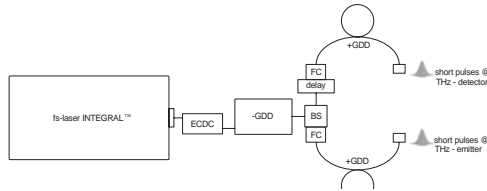


Functional Components

TeraNova is undertaking fundamental research and development to deliver new functional components for use at Terahertz (THz) frequencies. These optically-based components will revolutionize the way we generate, detect, amplify and modulate THz radiation. They are also being used in other applications within the TeraNova project such as the Semiconductor Scanner and MIST Demonstrators.

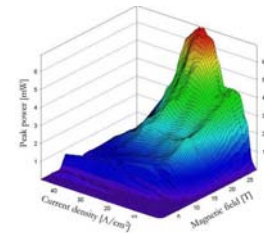
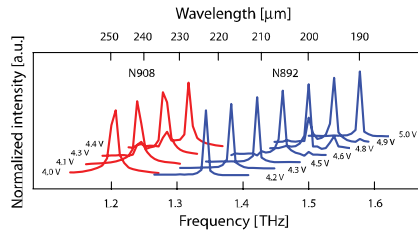
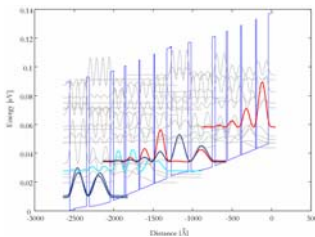
Femtosecond Lasers for THz Generation

- Femtosecond pulses, due to their unique time resolution and high peak intensities, have created many new research areas in science and industry; and they are now an essential tool for THz research.



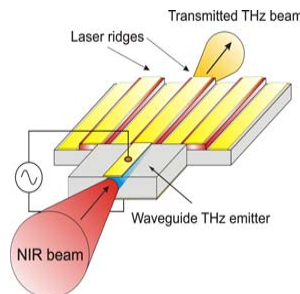
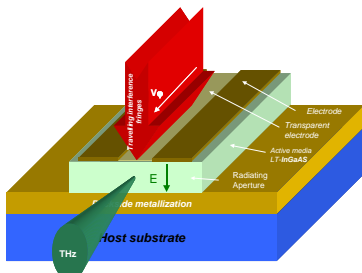
Quantum Cascade Laser Development

- Quantum Cascade Lasers can generate THz radiation down to 1.2 THz or, in a magnetic field, down to 850GHz. They utilise the emission of radiation as electrons in complex semiconductor structures move from one energy level to another.



Other Components

- TeraNova is developing other components as CW sources which will be used as Local Oscillators in detection schemes. TeraNova is also developing amplifiers and modulators.



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