

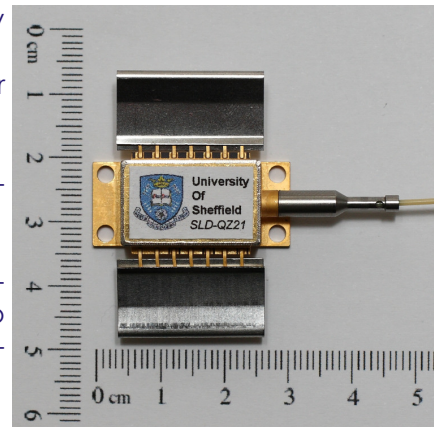
29038 Ultra-Broadband Superluminescent Diodes

The Technology

The first broadband high-power quantum dot superluminescent diodes (QD-SLDs) to have been intermixed with a significant blue-shift in their operating wavelength have been demonstrated by Researchers at the University of Sheffield. This process could open the door to high bandwidth active devices comprising regions of different wavelengths that meet the demands of, for example, optical imaging of the eye and other skin tissue.

Key features and benefits of this proprietary technology are:

- Post- epitaxial growth intermixing for realising greater than 100 nm bandwidth sources
- Modulation p-doping in the SLD for optimizing optical quality
- Central emission wavelength of the intermixed sample blue shifted by ca. 100 nm which can lead to breakthrough and innovative selective area intermixed QD-SLD devices for high resolution imaging



Intellectual Property

This technology is protected by Patent Application filed in December 2009.

The Opportunity

The unique property of QD-SLDs, where high power output and broadband emission are simultaneously realised, make them ideal optical sources for many applications:

- Optical Coherence Tomography (OCT) biomedical imaging applications - imaging the eye and other skin tissue
- Fibre optic gyroscopes
- Optical telecoms – wavelength division multiplexing

The Researchers at Sheffield's Centre for III-V materials have established demonstration facilities and considerable experience in OCT imaging systems. We are seeking commercial licensing and collaborative development opportunities for OCT and other cutting-edge applications.

For commercial enquiries on this technology, please contact Andrew Tingey, quoting reference 29038.

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