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Single beam Supercontinuum Coherent Anti-stokes Raman Spectroscopy

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A number of different techniques utilizing a coherent supercontinuum from a photonic crystal fibre to produce a single-beam coherent anti-stokes Raman scattering (CARS) signals from a variety of samples have been demonstrated. In this presentation, we compare some of these techniques, employing amplitude, phase, and polarisation modulation techniques on our supercontinuum pulse to produce single beam CARS signals. The supercontinuum used in these measurements is produced in a polarisation maintaining all-normal dispersion photonic crystal fibre, which is characterised and compressed through an iterative pulse characterisation technique. We compare Raman spectra from BBO and Cyclohexane to literature values to test which of these methods produce the best signal to noise ratio.

Apply to be
 considered for a student
   award (Yes / No)?

yes

Level for award
 (Hons, MSc,
   PhD, N/A)?

PhD

Main supervisor (name and email)
and his / her institution

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Would you like to
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no

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