

TB13 : Characterisation of a 17 μm quantum cascade laser, and spectroscopy of the ν_2 fundamental mode of N_2O

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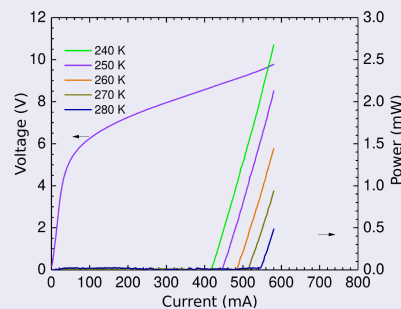
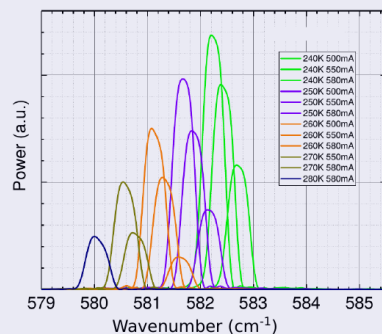
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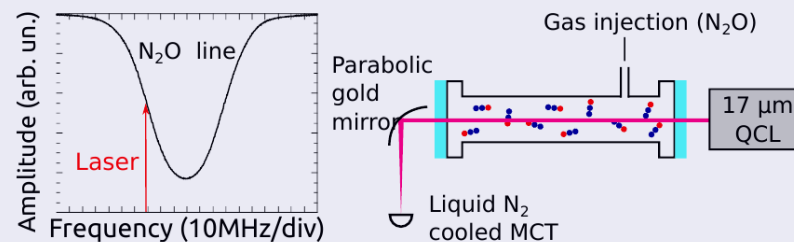
A 17 μm CW QCL for high-precision spectroscopy

- InAs and AlSb
- Narrow linewidth
- Single mode
- 250 / 300 K
- 2 mW output power
- 580-583 cm^{-1}



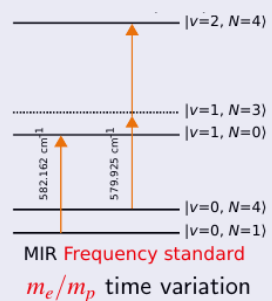
Frequency Noise of the QCL

Understand the frequency noise prior to locking for high-precision spectroscopy

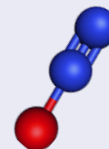


Future experiments

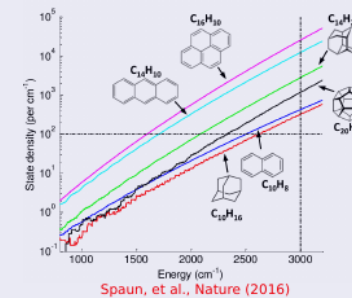
Laser cooled CaF



Atmospheric physics

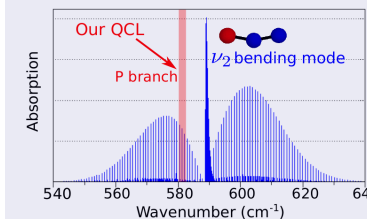


Large molecules at Low Energies



Spaun, et al., Nature (2016)

Doppler-limited spectroscopy of N_2O ν_2 bending mode



Frequency scale from line lists

- J. Mol. Spectrosc. 114, (1985).
- J. Mol. Spectrosc. 134, (1989).
- Accuracy ± 3 MHz.

