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ABSTRACT PDF

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Session Title Quantum Cascade Lasers - A Different Approach to Infrared Spectroscopy?

Abstract Title **Recent Advances in QCL Based Sensing of Liquids and Gases**

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Date: Tuesday, March 07, 2017 - Morning

Time: 10:25 AM

Room: W184bc

Co-Author(s)

#### Abstract Text

Direct quantitative analysis of milk proteins (casein and lactoglobulin) in milk has been achieved in a 40 [micro]m flow cell using an external cavity quantum cascade laser which covered the spectral range from 1600 to 1700 cm<sup>-1</sup>. Furthermore, using the same completely room temperature operated set-up, results on protein folding in normal and heavy water will be shown as well. Concerning gas sensing a new approach based on three tone dispersion spectroscopy will be introduced on the example of CO sensing. The obtained results will be compared with those obtained using standard 2f wavelength modulation absorbance spectroscopy.

Keywords: Infrared and Raman, Laser, Process Control, Sensors

Application Code: General Interest

Methodology Code: Vibrational Spectroscopy