Joint LLC Seminar

Thursday April 7, 15:15
The Rydberg Lecture Hall, Dep. of Physics

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Cavity-enhanced optical frequency comb spectroscopy

Cavity-enhanced optical frequency comb spectroscopy combines high resolution and broad spectral coverage provided by optical frequency combs with high absorption sensitivity obtained by the use of external high finesse cavities. It allows measurements of entire molecular bands and simultaneous detection of multiple species in short acquisition times. I will give an overview of the principles of the technique, including the various comb-cavity coupling schemes and broadband detection methods, as well as the comb sources in the near- and mid-infrared wavelength ranges. I will present our two systems, one based on a near-infrared Er:fiber femtosecond laser and a fast-scanning Fourier transform spectrometer, the other on a mid-infrared optical parametric oscillator and a Vernier detection scheme, and their application to precision spectroscopy and multi-species detection e.g. in a combustion environment.

The seminar is suited for a broad audience and open for everybody

The Rydberg Lecture Hall is located at the Department of Physics, Professorsgatan 1

Coffee and refreshments will be served before the seminar, from 15:00

Lund Laser Centre