

Talk announcement for: Thursday, August 16, 2012
at 13:30 at the Herbert-Walther Hörsaal/MPQ

Prof Dr Hans Schüssler,

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<http://sibor.physics.tamu.edu>



presents his talk:

“Frequency comb spectroscopies in the mid IR”

abstract:

There is an ongoing revolution in the field of spectroscopy based on frequency comb lasers (FCL). This is due to their broadband high-spectral resolution, and high detection sensitivity. Several methods have been and are being developed to utilize their regular comb structure of millions of laser modes. Especially in the infrared, a plethora of green house and other gases have molecular fingerprint spectra that can be studied with FCL, based mainly on the Er-,Yb-doped fiber lasers with their wavelength ranges extended by optical parametric oscillation processes, supercontinuum or difference-frequency generation. This talk will present our initial efforts to use FCL to monitor the methane content of seawater in the aftermath of the oil spill in the Gulf of Mexico, and the detection of atmospheric methane from natural seeps, and produced during fracking at the large shale gas reservoirs in the US and elsewhere.