

Laser Seminar

Thursday, December 7, 2017

Time **10.00h**

Location ETH Zurich, Höggerberg, HPF G6

Speaker **Xiaocui Wang**, Atomic Physics, Lund University, Sweden

Title Modulation of X-ray Reflectivity by a Photo-Acoustic Transducer

Abstract When a semiconductor is illuminated by a femtosecond laser pulse, a strain wave will be generated due to the heat deposition. With a metallic film coating on top of the semiconductor, the heat is deposited in the metallic film. Due to the properties of the metallic film and the semiconductor, a succession of strain echoes is generated in the semiconductor. This makes it possible to control the phonon spectra in the semiconductor. The photo-acoustic transducer has the ability to switch the efficiency of a Bragg-reflection using a laser pulse, which provides an alternative way to shorten the X-ray pulses at 3rd generation synchrotron radiation facilities. Based on this idea, we designed a gold/InSb transducer and characterized its performance. This is the first time-resolved experiment that has been carried out at the FemtoMAX beamline at the short-pulse facility of the MAXIV laboratory. During the seminar, I will present the result of this experiment.

Host Steve Johnson, Ultrafast Dynamics, IQE

More Info <http://www.fastlab.ethz.ch/laser-seminar.html>

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