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## **Seminar über Ultrafast Science and Technology**

**Referent:** Gregory Gäumann, Institute of Applied Physics, University of Bern

**Titel:** Nonlinear THz spectroscopy and NIR pump THz ellipsometry

In the first part of this talk measurements on graphene and vanadium dioxide in our high field THz setup will be presented and compared with simulations. For graphene an increase in transmission (saturable absorption) as high as 12% for strong fields is observed and it's dependence on the Fermi level was measured for the first time. The obtained results are compared to a simulation that is based on a simple thermodynamic energy balance. For VO<sub>2</sub> the onset of a THz field induced metal to insulator transition is observed. In the second part recent progress in building up a NIR pump THz ellipsometer is reported and first measurements on silicon and VO<sub>2</sub> are presented.

**Zeit:** Donnerstag, 19.10.2017, 11:15 Uhr

**Ort:** **Hörsaal B116**, Gebäude exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz