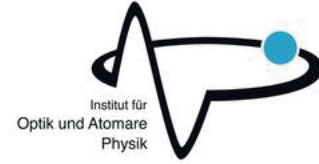
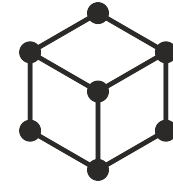


# Physikalisches Kolloquium



## Prof. Dr. Dmitry Turchinovich

Fakultät für Physik, Universität Bielefeld

**“Terahertz physics of graphene, possibly the most nonlinear material we know.”**

The interaction of graphene with terahertz (THz) electromagnetic waves is dominated by the collective, thermodynamic response of conduction electrons in graphene to the THz excitation. Due to very efficient energy transfer from the incident electromagnetic field to electronic system of graphene, facilitated by excellent conduction properties of Dirac electrons, the electronic temperature in graphene becomes strongly modulated by the THz excitation. As a result, the THz conductivity of graphene becomes highly nonlinear, leading to very strong THz saturable absorption and extremely efficient THz high harmonics generation. The effective nonlinear coefficients of graphene in the THz frequency range exceed that of any known material by many orders of magnitude. This possibly makes graphene the most nonlinear material we know.

Moderation: Prof. Dr. Michael Gensch

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**Thursday, 23.04.20 · 16:15h · EW 202**

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