Stuttgarter Physikalisches Kolloquium

Fachbereich Physik, Universität Stuttgart
Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme

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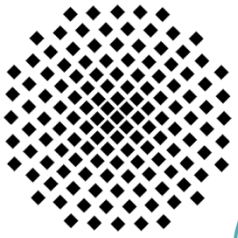

Dienstag, 10. Mai 2016	17:15 Uhr	Hörsaal V 57.01

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Martin Dressel, Universität Stuttgart, Telefon: 0711 - 685-64946

Ultrafast control and dynamics of quantum materials

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Abstract

The fundamental time and length scales in condensed matter are in the femtosecond and nanometer regime. Recent years have shown a stormy development of experimental techniques to address materials precisely at these relevant scales. It is fascinating to see that it has become possible to access the fundamental interactions determining the properties of condensed matter on their intrinsic time and length scales. Even more exciting is that these developments opened the possibility to drive systems into novel states using intense short pulses of light; states which are not accessible under normal thermodynamic conditions. Challenging questions and topics which can now be addressed include how and how fast photons are being converted into charges in photovoltaic devices, the ultimate speeds of switching a memory bit, the new physics arising in systems far from thermal equilibrium, in particular in complex correlated matter, and finally the full optical control of states of matter.