Mathematisch-Naturwissenschaftlichen Fakultät

Antrittsvorlesungen im Rahmen des Fakultätskolloquiums

von:	**Prof. Dr. Eleftherios Goulielmakis** Institut für Physik
zum Thema:	Can we see electrons in matter with visible light? New routes in experimental solid-state physics and chemistry
Zeit:	Donnerstag, 2. Mai 2019, um 17:00 Uhr
Ort:	Im Großen Hörsaal des Instituts für Chemie (Albert-Einstein-Straße 3a)

Zusammenfassung:

Can we see electrons in matter with visible light?
New routes in experimental solid-state physics and chemistry

The wavelength of visible light is often assumed to impose fundamental frontiers in optical microscopies and time-resolved spectroscopies of matter. In optical microscopies, it limits the spatial resolution to the nanometer scale while in time-resolved techniques, it restricts the temporal resolution to the scale of femtoseconds. Recent efforts allow us to push these frontiers. Synthesis of light waves with sub-cycle precision allows confining light waves into the attosecond time domain and probing of electronic relaxation in real time. They also enable us to develop new concepts of probing materials in space with picometer resolution. These advances in unison may allow new possibilities for understanding the fundamental chemical, electronic and optical properties of materials.