



Petahertz Solid State Physics

Electron dynamics and correlations define the initial steps of light-matter interaction. With the toolbox of attosecond spectroscopy we can scrutinize these phenomena in real time. I will discuss experiments revealing the influence of electronic correlations on the photoelectric effect and show how solid state attosecond spectroscopy can provide us with a time-domain understanding of electron dynamics in solids. The experiments reveal lasting and transient optical excitations across the band gap of semiconductors and dielectrics with sub-femtosecond response time, the resulting band-structure modifications and the energy exchange dynamics between light-field and solid.

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für Quantenoptik, Garching

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