Seminar talk June 28th at 2 p.m., small Max-Born-Hall

Dr. Bastian Pfau

"Probing Magnetic Nanostructures with Coherent X-rays"

Abstract:
Modern synchrotron radiation sources and free-electron lasers deliver coherent x-ray radiation with very high brightness and pulse durations of picoseconds down to femtoseconds. This radiation is intensely used for the research of modern magnetic materials owing to the x-ray magnetic circular dicroism that allows to element-specifically address the magnetization. In particular, functional materials featuring nanometer structure sizes or spin textures are of high interest due their potential for data storage and processing applications. In my research, I have used coherent x-ray imaging and scattering techniques to investigate functional magnetic materials with nanometer spatial and femtosecond temporal resolution. In my talk, I will present examples of this research ranging from studies on prototype samples for future data-storage technologies to studies on fundamental ultra-fast spin-reordering phenomena.