Doctoral Seminar

Graduate Research Training Group (GRK)

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INSTITUT FÜR PHYSIK

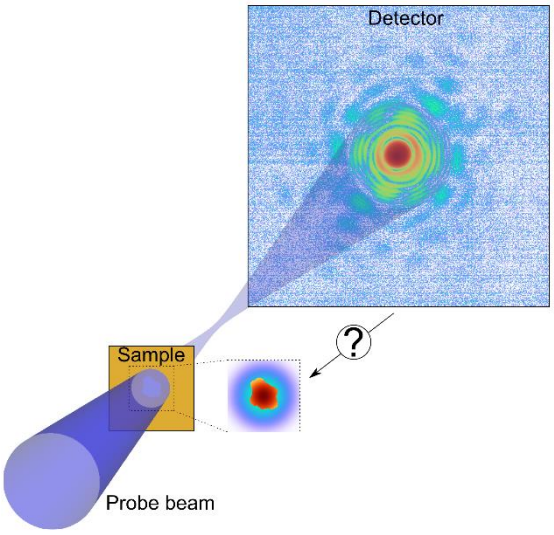
Talks in SoSe 2022

Traditio et Innovatio

Universität Rostock

7th April 2022, 3:00 pm
Richard Altenkirch
Strong-Field Nanophysics

Holographic Imaging and Reconstruction of Laser-Induced Modifications in Thin Films



Well controlled laser material processing with a spatial resolution on the scale of the laser wavelength is key to a variety of applications such as laser micromilling, scribing and drilling. Our focus is to pave the way towards studying the temporal evolution of such an ultrafast process in thin films which will significantly aid further advancements in this field. In our experiments, a probe laser is diffracted at a sample in a thin gold film and the scattered radiation is captured by a CCD camera, yielding a holographic diffraction image. By making some reasonable assumptions about the probe laser profile and the size of the sample, a precise 2D-reconstruction of the sample transmission is possible using an iterative algorithm. In my talk, I want to outline this exciting new technique that can in principle be used to image even very dynamical micro- and nanosamples.

Talk: English
Slides: English
Location: Great Lecture Hall, HS1, Institute for Physics, Albert-Einstein Str. 24

Hybrid-Meeting: https://uni-rostock-de.zoom.us/j/67191822515?pwd=UTVJSXVPaDVLV0ZSZW9LR3NRVWF2UT09