Doctoral Seminar

Graduate Research Training Group (GRK)

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INSTITUT FÜR PHYSIK

Talks in SoSe 2021

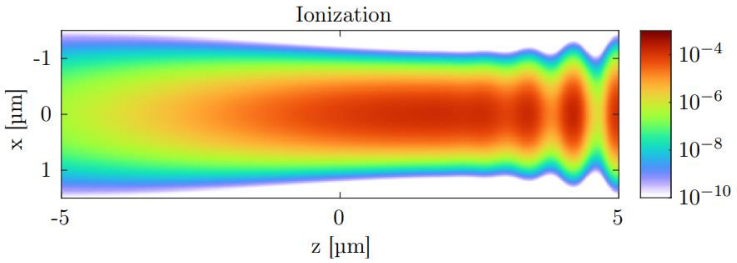
Traditio et Innovatio

Universität Rostock

22th July 2021, 15:00
Jonas Apportin
AG Strong-Field Nanophysics

Propagation of ultrashort, tightly focused light through nonlinear media with the FDTD-Method

High intensities can be generated in media through strong spatial and temporal focusing of light. Non-linear optical effects, such as the generation of harmonics, occur. In addition to Kerr-type nonlinearities, ionization effects also contribute to the generation of harmonics. The interaction of these effects is not trivial. Also the propagation of the light pulse through the medium result in spatial structures, e.g. in the ionization. A scheme which allows the investigation of those effects with FDTD simulations is introduced. Therefor a complete description of a focus, beyond the paraxial approximation, is derived and the models to describe the nonlinear properties are presented.



Talk: German
Slides: English

Location: https://uni-rostock-de.zoom.us/j/67867693635