Martedì 8 maggio 2018 alle ore 14:30 presso l’aula G

il Prof. Ulrich Hohenester

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terrà il seminario dal titolo:

**Simulation of electron microscopy of plasmonic nanoparticles**

Theoretical modeling and computer simulations have always played an important role in the interpretation and analysis of electron energy loss spectroscopy (EELS) and cathodoluminescence (CL) experiments for plasmonic nanoparticles [1]. While in other basic-research-driven fields such as first-principles density functional theory a huge bunch of open-source simulation software is available [2], plasmonics simulations largely build on commercial Maxwell solvers. Noticeable exceptions are boundary element method (BEM) solvers which have a longstanding tradition in plasmonic EELS/CL simulations [1]. In this talk, I will briefly introduce to the BEM methodology [1] as well as our implementation within the open-source MNPBEM toolbox [3] which was developed for the simulation of optical properties and EELS/CL of plasmonic nanoparticles. I will critically examine the advantages and disadvantages of our BEM approach in comparison to commercial FDTD and FEM solvers, and will discuss our recent developments in the fields of plasmon field tomography [4] and imaging of surface phonon polariton modes [5]. An outlook to possible future developments will be given at the end.

[1] F. J. García de Abajo, Rev. Mod. Phys. 82, 209 (2010).

La presenza della S. V. sarà molto gradita

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Stefano Corni

Il Direttore del Dipartimento
Michele Maggini