CFEL SCIENCE

SEMINAR

22th January 2014 - 2:00 p.m.

CFEL-bldg. 99, seminar rooms I-II

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CFEL, DESY, Theory Division

Transitions in matter triggered by intense ultrashort X-ray pulses

In my talk I will give an overview on the recent results of our theoretical investigation how the unique properties of X-ray free-electron laser (FEL) radiation can be employed to modify extended atomic or molecular assemblies, and to create new states of matter. I will discuss three topics that are related to various irradiation regimes that can be achieved, depending on the FEL pulse fluence and its wavelength: (i) radiation-induced transitions in solids, (ii) modeling of nanoplasmas created from finite systems, and (iii) atomic processes within laser-created plasmas and warm-dense-matter.

Host: Robin Santra – Theory Division