## Max-Planck-Institut für Struktur und Dynamik der Materie



Max Planck Institute for the Structure and Dynamics of Matter

## Thursday, July 9<sup>th</sup> 2015, 2 pm CFEL, Bldg. 99, Seminar Rooms I, II, III,

## ROBERTO MERLIN

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## PHOTON-MATTER INTERACTIONS I: INTRODUCTION TO LINEAR OPTICS

Following a general introduction to electrodynamics of continuous media, this lecture will cover the following subjects:

- 1. Kramers-Krönig relations.
- 2. Phenomenological (Drude and Lorentz) models.
- 3. Lattice and carrier absorption and TO-LO splitting.
- 4. Phonon polaritons.
- 5. LO-plasmon coupled modes.
- 6. Fano interferences.

Host: Andrea Cavalleri

