

Workshop on an accelerator based source for nonlinear THz science @ SwissFEL

Monday, 03 October 2016

08h00 – 08h50	Welcome Coffee & Registration
08h55	Workshop Opening (Urs Staub, PSI)
09h00 – 10h30	Session 1: Infrared optics, creation and new opportunities (Session Chair: Steve Johnson, ETH Zurich)
09h00 – 09h20	Simona Bettoni (PSI) Possible THz source based on wakefield generation
09h20 – 09h55	Dirk van der Marel (University of Geneva) THz radiation to study viscosity in electron liquids
09h55 – 10h30	Alexej Pashkin (Helmholtz-Zentrum Dresden-Rossendorf) FEL-based nonlinear THz spectroscopy at the ELBE accelerator
10h30 – 11h00	Coffee Break
11h00 – 12h30	Session 2: Static control (Session Chair: Gabriel Aeppli, PSI)
11h00 – 11h35	Jean-Marc Triscone (University of Geneva) Interfacial control of magnetism in (111) LaMnO ₃ /LaNiO ₃ superlattices
11h35 – 12h10	Darrell Schlom (Cornell University) Epitaxial Engineering of Ferroic Layers to Create a Room-Temperature Magnetoelectric Multiferroic
12h10 – 12h30	William Windsor Yoav (PSI) Lattice control of multiferroic properties in RMnO ₃ orthomanganites
12h30 – 13h30	Lunch Break
13h30 – 15h00	Session 3: Theory (dynamic and static) (Session Chair: Andrea Cavalleri, CFEL)
13h30 – 14h05	Michael Fechner (ETH Zurich) Density functional theory predictions of new physics enabled by THz FEL sources: Exotic superconductivity, magnetoelectric multipoles and dynamical multiferroicity
13h05 – 14h40	Antoine Georges (Centre de Physique Théorique – CPHT) Theory of light-control of solids and non-linear phononics
14h40 – 15h00	Alex Paarmann (Fritz Haber Institute of the Max Planck Society) Novel concepts for narrowband THz excitation of large amplitude lattice motions
15h00 – 15h30	Coffee Break
15h30 – 17h00	Session 4: Dynamic control at THz frequencies (Session Chair: Urs Staub, PSI)
15h30 – 16h05	Andrea Cavalleri (CFEL) Non-linear THz control of solids
16h05 – 16h40	Steve Johnson (ETH Zurich) Potential avenues for THz-induced control of order parameters in solids
16h40 – 17h00	Vincent Esposito (PSI) Nonlinear electron-phonon coupling in doped manganites
17h00 – 18h00	Wrap-up and how to proceed
18h00	End of workshop