ANNOUNCEMENT - TALK

Title: Rectified Quantum Orders and Quantum Printing

Abstract:

Quantum matter out of equilibrium emerges as an important platform to induce transient quantum orders. Modern techniques of coherent and fast light sources enable this evolution. Nonequilibrium orders have been seen in driven cold atoms, spins, magnetism and superconductivity. To place these ideas in a broader context I will introduce the concepts of rectified quantum orders and quantum printing as our approach to induce controlled quantum states. I will present recent theory predictions and experimental observations of induced orders: magnetization induced in paraelectric [1] and light-induced vortex excitations in superconductors [2].

[1] Terahertz electric-field-driven dynamical multiferroicity in SrTiO3, M. Basini, et al. Nature 628, 534–539 (2024).

[2] Structured light and induced vorticity in superconductors I, II: Quantum Print with Laguerre-Gaussian beam, arXiv:2412.00935; arXiv:2407.15834.

Date/Time: **TUESDAY, JUNE 10 at 11:00**

Location: **CFEL SR III**

Speaker: **ALEXANDER V. BALATSKY** (NORDITA, Nordic Institute for Theoretical Physics, Sweden)