Tata Institute of Fundamental Research
Survey No. 36/P, Gopanpally Village, Serilingampally, Ranga Reddy Dist., Hyderabad – 500 046

Internal Seminar

Coherent Optical Generation of Ultrafast Currents: Control and Applications

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The ability to generate and control photocurrents on ultrafast timescales offers significant potential for both scientific exploration and practical technologies. These currents can be tuned in both strength and direction by adjusting the relative phase between a fundamental beam and its second harmonic, a process referred to as coherent control. In this talk, I will focus on current generation and control using two-color tailored laser pulses in GaAs, monolayer and multilayer graphene. Our work demonstrates generation of reconfigurable transient currents that form the basis for tailored magnetic fields, advanced optoelectronic circuitry, and structured terahertz radiation.

Wednesday, Mar 04th 2026

14:30 Hrs

Seminar Hall, TIFRH