

Area Seminar

Title Coherent pump-probe spectroscopy of atomic and molecular systems

Date and Time 29/04/2013 16:00:00

Speaker Ms. Niharika Singh

BARC, Mumbai

Area Theoretical Physics

Venue Room No. 469

Abstract Quantum coherence and interference provide an interesting outlook for designing strategies for the control of optical response of atomic/molecular medium. This theme is the main focus of the work presented in this talk. The specific issues addressed are electromagnetically induced transparency (EIT), amplification without inversion (AWI) and spontaneously generated coherence (SGC). Also examined are the issues related to the effect of permanent dipole moments on the coherent dynamics of molecular systems and realization of negative refractive index in coherently prepared atomic medium. These phenomena help to understand the subtle quantum effects in laser-atom interactions, they on the other hand provide useful platform for development of quantum technologies.