



School of Nano Science



IPM Condensed Matter &
Statistical Physics Group

Weekly Seminar

Femtosecond pulse laser, generation, manipulation & applications

Invited speaker:

Dr. Abdollah Malakzadeh

School of Astronomy, IPM

Abstract:

Ultrashort pulses are one of the most important tools to investigate fast evolving processes such as electronic relaxations. Chirped pulse amplification (CPA) is a technique to produce ultrashort strong pulses. To produce ultrashort pulse with a continuous tunability or shorter pulse while keeping the pulse energy as high as possible, we built a noncollinear optical amplifier and a capillary compressor setup. Continuously tunable pulses at 490-650nm can be generated with a few μJ energies in the nOPA. The spectral broadenings are carried out in a krypton or argon gas filled hollow capillary and the spectrally broadened pulses are compressed (temporally) in a double path prism compressor.

Ultrashort pulses at $\sim 800\text{nm}$ or at its half wavelength, down to a few femtoseconds were produced by the capillary compressor.

Wednesday, 17 Mehr 1398 (October 9, 2019), 14:00-15:00

Seminar Room (Classroom A), Farmanieh Building, IPM