Joint CQSE and CASTS Seminar

Weekly Seminar
Oct. 16, 2012 (Tuesday)

TIME	Oct. 16, 15:30 ~ 16:30
TITLE	Probing ultrafast dynamics of atoms and molecules with attosecond and femtosecond light pulses
SPEAKER	Prof. Chii-Dong Lin Department of Physics, Kansas State University
PLACE	Rm716, CCMS & New Physics Building, NTU

Abstract

In this general talk, I will introduce the topic and current research tools available for probing the dynamics of matter at the timescales of attoseconds to a few femtoseconds. I will then give two examples. First, I will show how intense infrared lasers have been used to reveal that the bond length of an oxygen molecule shrinks by 0.1 Angstrom within about five femtoseconds after an electron is removed. Then I will show how one can use intense lasers to modify the decay of a resonance and the change can be probed with an attosecond light pulse. These examples illustrate the control of matter at the shortest timescales to date.