

Joint CQSE and CASTS Seminar

Weekly Seminar
Sep. 30, 2016 (Friday)

TIME Sep. 30, 2016, 14:30 ~ 15:30
TITLE Quantum Information Processing based on
Electromagnetically Induced Transparency Media
SPEAKER Dr. You-Lin Chuang
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Electromagnetically induced transparency (EIT) is a quantum coherence process which arises from the interactions between light and atomic system. Due to the coherent interactions, the quantum information which is delivered by field photons can be faithfully mapped on atomic ensembles, and vice versa. In this talk, we will introduce how quantum properties such as quantum squeezing and entanglement are converted and generated by means of EIT media. Based on the controllable optical properties of EIT, quantum states of field photons can be manipulated. With these characters of EIT, it has great potentials in quantum information processing, and many possible applications will be discussed.

