

Joint CQSE and CASTS Seminar

Weekly Seminar
Mar. 4, 2016 (Friday)

TIME Mar. 4, 2016, 14:30 ~ 15:30
TITLE Superradiance and cooperative Lamb shift
SPEAKER Prof. Guin-Dar Lin
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PLACE Rm716, CCMS & New Physics Building, NTU

Abstract

Cooperativity results from exchange interaction of particles. In an atomic cloud, the build-up of cooperativity is usually through particles' dipole-dipole interaction. Such nature leads to drastically accelerated decay processes as known as superradiance. Some recent studies have turned their focus on the cooperative Lamb shift, a real contribution due to virtual processes between identical atomic emitters, analogous to the ordinary Lamb shift in the hydrogen atom. In this talk, we will present our model of an effective master equation approach as well as our calculation describing superradiant behavior and the relevant energy shift.

