

ICTS Seminar

Title : Subradiance to Hyperradiance in Strong Coupling Cavity QED

Speaker : G S Agarwal, Texas A & M University, USA

Date : Wednesday, December 13, 2017

Time : 11:00 AM

Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore

Abstract : The collective behavior of an ensemble of atoms has been studied in-depth since the seminal paper of Dicke where he demonstrated that a group of emitters in collective states is able to radiate with increased intensity a phenomenon that he called superradiance. Almost all studies of superradiance since then have been in the weak coupling regime of the interaction. The strong coupling which one can routinely achieve in cavity QED can lead to a variety of new behavior starting from subradiance to hyperradiance. Besides cavities enable one to study the position dependent collective effects as it becomes possible to trap atoms at well defined positions. We discuss various mechanisms behind hyperradiance and possible nonclassical nature of the emitted radiation.