

Abstract Submitted  
for the TSF15 Meeting of  
The American Physical Society

**The representation for Dicke system and spontaneous emission of single photon subradiant states.** LUOJIA WANG, BARNABAS KIM, MARLAN SCULLY, Texas A&M University — Superradiance and subradiance from an ensemble of resonant two-level atoms are interesting phenomena. The Dicke system in which the sample size is small compared to the radiation wavelength could be considered as a system of  $N$  spin-half particles and grouped into angular momentum multiplets. By means of addition of angular momentum, different kinds of subradiant states from different representations could be obtained. The collective spontaneous emission of single photon subradiant states is studied and different choices of subradiant states are compared.

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Date submitted: 09 Oct 2015

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