

Abstract Submitted  
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**Spontaneous emission modification via quantum interference with energy shifts remained** SHUAI YANG, Institute for Quantum Studies and Department of Physics, Texas A&M University, College Station, Texas 77843, USA, SHI-YAO ZHU, Beijing Computational Science Research Center, Beijing, 100084, China, M. SUHAIL ZUBAIRY, Institute for Quantum Studies and Department of Physics, Texas A&M University, College Station, Texas 77843, USA — Quantum interference in spontaneous emission from a four-level atom is investigated with the counter rotating terms and the energy shifts included. The atom has two upper levels coupled to a common lower level by the same vacuum modes and is driven by a coherent field to an auxiliary level. The effect of the counter rotating terms in coupling through the vacuum modes is taken into account by a unitary transformation method. We show how the quantum interference due to the energy shifts effects the spontaneous emission spectrum.

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