Nonclassical Effects of a Four-Level Excited-Doublet Atom Model

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Abstract: We adopt a dynamical algebraic method to study a four-level excited-doublet atom model and obtain the explicit expressions of the time-evolution operator and the density operator for the system. The nonclassical effects of the system, such as collapses and revivals of the atomic inversion and squeezing of the radiation field, are also discussed.

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