Quantum Collapse and Revival of Atom in Mode-Mode Competing System

WU Qin and FANG Mao-Fa

College of Physics and Information Science, Hunan Normal University, Changsha 410081, China
(Received: 2004-6-21; Revised:)

Abstract: The atomic inversion dynamics in the mode-mode competing system is studied by means of fully quantum theory. A general solution to the Schrödinger equation of this system is obtained. The influence of the relative competing strength between the atom and the two-mode field on the atomic inversion is disccussed. We show that the presence of the mode-mode competition can result in periodical collapses-revivals of the atomic inversion.

[Full text: PDF]

Close