Review of: "Dynamics of Three-Level Laser Pumped by Electron Bombardment"

Yanhui Zhou[1]

1 Shangrao Normal University

Potential competing interests: No potential competing interests to declare.

The author studies the statistical and squeezing properties of the cavity light generated by a three-level laser. The model is: N three-level atoms coupled to a two-mode vacuum reservoir are pumped to the top level by means of electron bombardment at constant rate. The author calculated the mean and variance of the photon number as well as the quadrature squeezing for the cavity light by applying the solutions of the equations of evolution for the expectation values of the atomic operators and the quantum Langevin equations for the cavity mode operators. The author has done a lot of derivations and makes an intensive study on this subject, so I think that it can be published in Qeios. However, a question needs to be answered that: the master equation [equation(12)] describes the system evolution, which only includes the atomic spontaneous emission of a three-level atom, the decays of cavity modes should be considered in my opinion [see PHYSICAL REVIEW A 97, 043819 (2018)].