

Generation of Pure States in a Two Photon Micromaser Effects of Finite Detuning and Cavity Losses

Abstract

In this paper, we study the generation of pure states in a two-photon micromaser with finite detuning of the intermediate atomic level. This study was done via the temporal evolution of the discrete master equation. We show that it is possible to generate the ideal squeezed vacuum for a broad range of detunings in a lossless cavity and away from the trapping condition. We also consider the effect of cavity losses.