The Exact Solution of Milburn Equation Without Diffusion Approximation for the Two-Model Raman Coupled Model

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Abstract: By making use of the dynamical algebraic approach, we study the two-mode Raman coupled model governed by the Milburn equation and find the exact solution of the Milburn equation without diffusion approximation. The exact solution is then used to discuss the influence of intrinsic decoherence on the revivals of atomic inversion, oscillation of the photon number distribution and squeezing of radiation field in the whole ranges of the decoherence parameter γ.

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