PATH INTEGRAL FOR THE GENERALIZED JAYNES-CUMMINGS MODEL WITH A PSEUDO HERMITIAN HAMILTONIAN AND NONLINEAR KERR CAVITY

M. AOUACHRIA

Laboratoire de Physique Energétique Appliquée (LPEA), Département des Sciences de la Matière, Faculté des Sciences, Université Hadj Lakhdar – Batna, Algeria.

ABSTRACT. We use the coherent state path integral and an angular model for the spin to solve the generalized Jaynes-Cummings model with a pseudo-hermitian Hamiltonian and a nonlinear Kerr cavity. The propagators are given explicitly as perturbation series. These are summed up exactly. The energy spectrum and the bi-orthonormal basis of states are deduced.