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Path integral formalism for the jaynes-cummings model in the presence of a classical homogeneous gravitational field

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In this work we solve the generalized Jaynes-Cummings model in the presence of the gravitational field using bosonic and fermionic coherent states path integral. By using the phase space and some rotations in the space of coherent states, have enabled greatly simplify the calculations. The propagators are given explicitly as perturbation series, these are summed up exactly in terms of special functions, the wave functions are then deduced.

Biography

Hilal benkhelil completed his PhD this year (2022) from the University of Batna 1. He is a high school physics teacher. He has 3 published research papers in famous journals.