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The Time Evolution for Qubit - Spin Coherent State Interaction System Using Majorana Sphere Representation

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Abstract We studied the interacting system of qubit with a collection of N qubits or known as spin coherent state. From the interaction of the qubit - spin coherent state system, we can observe many interesting phenomena such as 'collapse and revival' in the time evolution of the qubit state, the qubit of attractor state, the qubit - spin coherent state entanglement, and the occurrence of the

Schrodinger's cat state. The event of 'collapse and revival' will be mainly focused in this study. Prior studies had shown the Bloch Sphere and Majorana Sphere representations for the interaction system between qubit and a coherent state. Therefore, in this research, we will analyze the time evolution of the qubit state in the qubit - spin coherent state interacting system for the one qubit case, and represent the dynamics of the qubit state using the Majorana Sphere representation.

Keywords

Author Keywords: [qubit](#); [spin coherent state](#); [collapse and revival](#); [majorana sphere](#)

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