

EPR Entangled States for Bipartite Kinematics and New Bosonic Representation of SU(2) Algebra

FAN Hong-Yi^{1,2} and CHEN Jun-Hua²

¹ Department of Physics, Shanghai Jiao Tong University, Shanghai 200030, China

² Department of Material Science and Engineering, University of Science and Technology of China, Hefei 230026, China

(Received: 2003-3-3; Revised:)

Abstract: We find that the Einstein-Podolsky-Rosen (EPR) entangled state representation describing bipartite kinematics is closely related to a new Bose operator realization of SU(2) Lie algebra. By virtue of the new realization some Hamiltonian eigenfunction equation can be directly converted to the generalized confluent equation in the EPR entangled state representation and its solution is obtainable. This thus provides a new approach for studying dynamics of angular momentum systems.

PACS: 03.65.U, 02.90

Key words: EPR entangled states, new Bose realization of SU(2) algebra

[\[Full text: PDF\]](#)

Close