

Weakly Coupled Three-Layer Quantum Dot with a Charged Impurity in Magnetic Field

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Abstract: The states of a weakly coupled 3-quantum-dot system with an external charged impurity located on the z-axis are studied in a magnetic field. The evolutions of the true ground state with the magnetic field B are obtained for various impurity cases. It is found that the negative charge impurity would promote the phase transition of the true ground state.

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Key words: quantum dot, charged impurity, true ground state, phase transition

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