

## Two Interacting Electrons in a Vertically Coupled Quantum Dot

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Abstract: We study a two-electron system in a double-layer quantum dot under a magnetic field by means of the exact diagonalization of the Hamiltonian matrix. We find that discontinuous ground-state energy transitions are induced by an external magnetic field in the case of strong coupling. However, in the case of weak coupling, the angular momentum  $L$  of the true ground state does not change in accordance with the change of the magnetic field  $B$  and remains  $L=0$ .

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