

Chonlathep Kitsinthopchai 2013: Dynamical Simulation of Electron Hoping in Double Quantum Rings. Master of Science (Physics), Major Field: Physics, Department of Physics. Thesis Advisor: Assistant Professor Sutee Boonchui, Ph.D. 43 pages.

In this Thesis, we study effects of The wave packet of electron is hoping through quantum rings under the static magnetic field, can be solved by transformation to the canonical form of certain system of differential equation. The Lorentz force leads to electron asymmetry which enhances the electron passing through a quantum ring while the Aharonov-Bohm effect (AB effect) reduces the probability of transmission by phase shifted interference. For zero or similar magnetic field of both rings, the wave packet can pass both quantum rings to the exit quantum wire while different magnetic field of both rings prevent the second ring's injection of electron.

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Thesis Advisor's signature