

STABILIZATION OF THE CHAOTIC STATE
BY A WEAK HARMONIC FIELD
UNDER NONLINEAR RESONANT
TUNNELING

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S u m m a r y

The effect of electromagnetic radiation on the process of resonant tunneling of electrons through the double barrier potential with account of the electron-electron interaction in a quantum well is investigated. The electron delay at the quasilocalized state in the well taking place under the resonance condition enhances the external ac field effect. When a sequence of periodic electron pulses is going through the double barrier system, there exists a range of parameters in which the chaotic regime characterized by a strange attractor in a phase space takes place. It has been shown that the action of a low intensity ac field with the frequency multiple to the frequency of incoming periodic pulses results in the stabilizing of the unstable regime. The intensity threshold of the effective influence of electromagnetic radiation has been found.