Chaotic Solutions of a Typical Nonlinear Oscillator in a Double Potential Trap

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Abstract: We have obtained a general unstable chaotic solution of a typical nonlinear oscillator in a double potential trap with weak periodic perturbations by using the direct perturbation method. Theoretical analysis reveals that the stable periodic orbits are embedded in the Melnikov chaotic attractors. The corresponding chaotic region and orbits in parameter space are described by numerical simulations.

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