Dynamical states and stochastic resonance of a particle in periodic bistable potential

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**Abstract**. We numerically solve the Langevin equation of motion[1-4] to obtain the trajectories and dynamical states of a particle in one-dimensional inhomogeneous periodic bistable potential *V(x)= V0[cos(x) + 2cos(2x)]*  system driven by a periodic force *F(t) = f0cos(ωt)* in presence of friction *γ(x,t) = γ0[1 – λcos(ωt + kx)]*. We choose the homogeneity parameter *λ* = 0.9 and study the stochastic resonance by solving the average (arithmetic mean) energy > of the particle as a function of temperature *T* (thermal noise)[3-6]. We analyse the numerical results and attempt to find the arguable explanations.

References:

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