Title:	Stochastic Resonance in coupled Underdamped Bistable Systems
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Abstract:	We study onset and control of stochastic resonance (SR) phenomenon in two driven bistable systems, mutually coupled and subjected to independent noises, taking into account the influence of both the inertia and the coupling. In the absence of coupling, we found two critical damping parameters: one for the onset of SR and another for which SR is optimum. We then show that in weakly coupled systems, emergence of SR is governed by chaos. A strong coupling between the two oscillators induces coherence in the system; however, the systems do not synchronize no matter what the coupling is. Moreover, a specific coupling parameter is found for which the SR of each subsystem is optimum. Finally, a scheme for controlling SR in such coupled systems is proposed by introducing a phase difference between the two coherent driving forces.
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