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Synchronous motion of two vertically excited planar elastic pendula. (English) Zbl 1311.70014
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Summary: The dynamics of two planar elastic pendula mounted on the horizontally excited platform have been studied. We give evidence that the pendula can exhibit synchronous oscillatory and rotation motion and show that stable in-phase and anti-phase synchronous states always co-exist. The complete bifurcational scenario leading from synchronous to asynchronous motion is shown. We argue that our results are robust as they exist in the wide range of the system parameters.

MSC:

70E17 Motion of a rigid body with a fixed point

Cited in **6** Documents

Keywords:

coupled oscillators; elastic pendulum; synchronization

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