

130. Zvi Artstein, **The pendulum under vibrations revisited**. Nonlinearity 34 (2021), 394-410.

**Abstract.** A simple intuitive physical explanation is offered, of the stability of the inverted pendulum under fast violent vibrations. The direct description allows to analyze, both intuitively and rigorously, the effect of vibrations in similar, and in more general, situations. The rigorous derivations in the paper follow a singular perturbations model of mixed slow and fast dynamics. The approach allows applications beyond the classical inverted pendulum model.

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