ČESKÁ SPOLEČNOST PRO MECHANIKU
ÚTAM AV ČR, v.v.i.

Vás srdečně zve na přednášku

Energy exchange, localization and transient phenomena in essentially non-linear oscillatory systems.

Abstrakt: Over recent years, a lot of progress has been achieved in understanding of the relationship between localization and transport of energy in essentially non-linear oscillatory systems. In this lecture we are going to demonstrate that the structure of the resonance manifold can be conveniently described in terms of canonical action-angle variables. Such formalism has important theoretical advantages: all resonance manifolds may be described at the same level of complexity, appearance of additional conservation laws on these manifolds is easily proven both in autonomous and non-autonomous settings. The harmonic balance - based complexification approach, used in many previous studies on the subject, is shown to be a particular case of the canonical formalism. Moreover, application of the canonic averaging allows treatment of much broader variety of dynamical models. As an example, energy exchanges in a system of coupled vibro-impact oscillators are considered. Other example addresses an escape of classical particle from infinite-range potential well under periodic external forcing. Further generalizations of the formalism describe travelling waves and breathers in strongly nonlinear discrete lattices and continuous systems

kterou přednese

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přednáška se bude konat *ve středu 21. června 2017* ve 14:00 hod. v budově Ústavu teoretické a aplikované mechaniky AV ČR, v.v.i., Prosecká 76, Praha 9.

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