

## Nonlinear dynamics

*Friday, 17 January 2020 10:35 (30 minutes)*

Non-integrable nonlinear dynamical systems possess unusually interesting characteristics in terms of their phase space portraits, unlike of the linear dynamical system, from which they could arise as a perturbed case. The correspondence of periodic solution between perturbed and unperturbed case is presented as the KAM theorem in frame of Hamiltonian systems with constant energy. Understanding of classical chaotic dynamics is intended to later clarify path for study of chaotic hydrodynamics and even further up to relativistic hydrodynamics. Last named branch seems to be the theory governing dynamics of quark-gluon plasma and where recently chaotic behavior has been observed.

**Primary author:** NOVÁK, Tomáš (CTU FNSPE)

**Presenter:** NOVÁK, Tomáš (CTU FNSPE)

**Session Classification:** Teorie a fenomenologie