Nonlinear oscillations in Hamiltonian PDEs

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Abstract

This mini-course is mainly focused on the use of variational methods in the search of periodic solutions for Hamiltonian PDEs. First, we survey some existence results for finite dimensional Hamiltonian systems, introducing the main tools of critical point theory. Next, we discuss their generalizations for infinite dimensional systems. Both small divisors difficulties, overcome via Nash-Moser theory, and infinite dimensional bifurcation phenomena can occur.

References

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