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**Existence of periodic solutions for Hamiltonian systems with super-linear and sign-changing nonlinearities.** (English) [Zbl 1459.37054](#)

*J. Appl. Anal. Comput.* 8, No. 5, 1524-1534 (2018).

**Summary:** In this paper, we consider the existence of periodic solutions for the super quadratic second order Hamiltonian system, and primitive functions of nonlinearities are allowed to be sign-changing. By using some weaker conditions, our result extends and improves some existed results in the literature.

**MSC:**

- [37J46](#) Periodic, homoclinic and heteroclinic orbits of finite-dimensional Hamiltonian systems
- [34C25](#) Periodic solutions to ordinary differential equations
- [37C27](#) Periodic orbits of vector fields and flows
- [70H12](#) Periodic and almost periodic solutions for problems in Hamiltonian and Lagrangian mechanics
- [70K42](#) Equilibria and periodic trajectories for nonlinear problems in mechanics

**Keywords:**

second-order Hamiltonian system; sign-changing; super quadratic; periodic solutions

**Full Text:** [DOI](#)

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