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Periodic solutions for a class of second order Hamiltonian systems with $p(t)$-Laplacian.

(English)  
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Summary: By means of a variational analysis and the theory of variable exponent Sobolev spaces, we study the existence of periodic solutions for a class of nonlocal Hamiltonian systems with $p(t)$-Laplacian. Some new solvability conditions of periodic solutions are obtained; this unifies and generalizes some of the recent corresponding results in the literature.

**MSC:**

- 34C25 Periodic solutions to ordinary differential equations
- 58E05 Abstract critical point theory (Morse theory, Lyusternik-Shnirel’man theory, etc.) in infinite-dimensional spaces
- 70H05 Hamilton’s equations
- 58E50 Applications of variational problems in infinite-dimensional spaces to the sciences
- 37J45 Periodic, homoclinic and heteroclinic orbits; variational methods, degree-theoretic methods (MSC2010)

**Keywords:**

- periodic solution;
- nonlocal $p(t)$-Laplacian Hamiltonian systems;
- the variable exponent Sobolev spaces;
- critical point theory

**Full Text:** [DOI](https://doi.org/)

**References:**


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