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**Periodic solutions for a class of non-autonomous second order systems.** (English)

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Using the theory of critical points, the authors obtain an existence result for nontrivial periodic solution to the second-order system

$$\begin{cases} \ddot{u}(t) + A\dot{u}(t) + \nabla F(t, u(t)) = 0 & \text{a.e. } t \in [0, T], \\ u(0) - u(T) = 0, \quad \dot{u}(0) - \dot{u}(T) = 0, \end{cases}$$

where  $A$  is an antisymmetry constant matrix and  $F : [0, T] \times \mathbb{R}^N \rightarrow \mathbb{R}$  satisfies certain conditions. The result generalizes the work of [Z.-L. Tao, S. Yan and S.-L. Wu, "Periodic solutions for a class of superquadratic Hamiltonian systems", J. Math. Anal. Appl. 331, No. 1, 152–158 (2007; Zbl 1123.34311)].

Reviewer: Yongxiang Li (Lanzhou)

**MSC:**

**34C25** Periodic solutions to ordinary differential equations

**37J45** Periodic, homoclinic and heteroclinic orbits; variational methods, degree-theoretic methods (MSC2010)

**58E50** Applications of variational problems in infinite-dimensional spaces to the sciences

Cited in 1 Document

**Keywords:**

periodic solutions; superquadratic; condition (C)\*