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Discrete Schrödinger equations with sign-changing nonlinearities: infinitely many homoclinic solutions. (English) Zbl 1372.39011

Summary: We obtain infinitely many homoclinic solutions for a class of discrete nonlinear Schrödinger equations, where nonlinearities are superlinear at infinity and primitive functions of nonlinearities are allowed to be sign-changing. By using some weaker conditions, our results extend and improve some existed results in the literature. Besides, some examples are given to illuminate our results.

MSC:
39A12 Discrete version of topics in analysis
35Q55 NLS equations (nonlinear Schrödinger equations)
37C29 Homoclinic and heteroclinic orbits for dynamical systems

Keywords:
discrete nonlinear Schrödinger equations; superlinear; homoclinic solutions; variational methods

Full Text: DOI

References:


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