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位势可变号的二阶自伴差分系统的同宿轨道

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Homoclinic Orbits for Second Order Self-Adjoint Difference System with a Change of Sign in the Potential

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摘要 研究了一类二阶自伴差分系统——非平凡同宿轨道的存在性问题.在位势满足超线性条件下，利用山路引理和对称山路引理，得到了位势非周期且可变号的情形下系统同宿轨道的存在性结果.

关键词： 同宿轨道 差分系统 山路引理

Abstract: The authors we study the existence of nontrivial homoclinic orbits of the second self-adjoint difference system Δ2 u(t-1)-q(t)u(t)+ V(t,u(t))=0t∈Z,u∈Rm.Under superquadratic conditions,by using the Mountain Pass Theorem and the Symmetric Mountain Pass Theorem,some existence theorems are established for the existence of homoclinic orbits for the above nonautonomous Hamiltonian systems with a change of sign in the potential.

Key words: homoclinic orbits difference system Mountain Pass Theorem

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