

HOMOCLINIC SOLUTIONS FOR A CLASS OF SECOND ORDER HAMILTONIAN SYSTEMS

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Abstract. The existence of homoclinic solutions is obtained by the Mountain Pass theorem for a class of the second order Hamiltonian systems $\ddot{q}(t) + \nabla V(t, q(t)) = 0$, where $V(t, x) = -K(t, x) + W(t, x) \in C^1(\mathbb{R} \times \mathbb{R}^N, \mathbb{R})$, $K(t, x)$ is not a quadratic form in x and $W(t, x)$ is superquadratic in x .

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