

Strong Instability of Solitary Waves for Inhomogeneous Nonlinear Schrödinger Equations

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Abstract

This paper studies the inhomogeneous nonlinear Schrödinger equations, which may model the propagation of laser beams in nonlinear optics. Using the cross-constrained variational method, a sharp condition for global existence is derived. Then, by solving a variational problem, the strong instability of solitary waves of this equation is proved.

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