Infinitely many solutions for quasilinear schr\"{o}dinger equation with general superlinear nonlinearity

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Abstract

In this article, we study the quasilinear Schr\"{o}dinger equation \begin{eqnarray*} \begin{array}{ll} \triangle{u}+V(x)u-\triangle(u^2)u=g(x,u), \ x\in\mathbb{R}^N, \end{array} \end{eqnarray*} where the potential $V(x)$ and the primitive of $g(x,u)$ is allowed to be sign-changing. Under more general superlinear conditions on g, we obtain the existence of infinitely many nontrivial solutions by using Mountain Pass Theorem. Recent results in the literature are significantly improved.

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