
Summary: In this paper, the existence of positive solutions for a class of quasilinear Schrödinger equations is studied by the perturbation method and variational method. The novelty of this paper is that the smoothness of the weight function away from the origin is not required.

MSC:
- 35B09 Positive solutions to PDEs
- 35J10 Schrödinger operator, Schrödinger equation
- 35J20 Variational methods for second-order elliptic equations
- 35J62 Quasilinear elliptic equations

Keywords:
- generalized quasilinear Schrödinger equation; perturbation method; variational method; standing wave solution