

On the effect of the domain geometry on the existence of sign changing solutions to elliptic problems with critical and supercritical growth *

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Abstract

This paper deals with the existence of sign changing solutions of problem

$$\begin{cases} -\Delta u = |u|^{p-1}u + \varepsilon w(x)|u|^{q-1}u & \text{in } \Omega \\ u = 0 & \text{on } \partial\Omega \end{cases}$$

where Ω is a bounded regular domain in \mathbb{R}^N , $N \geq 4$, $\varepsilon > 0$, $p = \frac{N+2}{N-2}$, $q \geq 1$, $q \neq p$ and $w \in C^1(\overline{\Omega})$.

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