

QUASILINEAR ELLIPTIC PROBLEM WITH HARDY POTENTIAL AND SINGULAR TERM

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Abstract/Résumé : We consider the following quasilinear elliptic problem $-\Delta(p)u = \lambda \frac{u^{p-1}}{|x|^p} + \frac{h}{u^\gamma}$ in Ω , where $1 < p < N$, Ω subset of \mathbb{R}^N is a bounded regular domain such that 0 is an element of Ω , $\gamma > 0$ and h is a nonnegative measurable function with suitable hypotheses. The main goal of this work is to analyze the interaction between the Hardy potential and the singular term $u(-\gamma)$ in order to get a solution for the largest possible class of the datum h . The regularity of the solution is also analyzed.

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