

p-Laplacian with indefinite weights

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Abstract - We consider the Dirichlet problem $-\Delta_p u = \lambda V(x) |u|^{p-2} u + f(x, u)$, $u \in W_0^{1,p}(\Omega)$, where $p > 1$, $-\Delta_p$ is the p-laplacian operator, $\lambda \in \mathbb{R}$ and the weight function V is a given function in $L^s(\Omega)$. We prove the existence of weak solutions for this problem in two cases, using variational and topological methods.

Key words and phrases : p-laplacian, critical points, Fredholm alternative.

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