

Nonhomogeneous Dirichlet Problems for the p -Laplacian

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This talk is mainly concerned with the existence, nonexistence and multiplicity of positive solutions for the problem

$$\begin{cases} -\Delta_p u = \lambda u^{q-1} & \text{in } \Omega, \\ u = \varphi & \text{on } \partial\Omega. \end{cases} \quad (1)$$

For $p = 2$, $q = p^*$ and $\varphi = 0$, this is the well-known Pohozaev equation, which has led to a very large number of works dealing with criticality. Our purpose here is to study problem (1) in the case of the p -Laplacian with a nonzero boundary data φ .

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