

Existence of nonradial solutions for a class of quasilinear problems

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Abstract. In this work we prove results on existence and multiplicity of non radial solutions for a class of singular quasilinear elliptic problems of the form

$$\begin{cases} -\operatorname{div} [|x|^{-ap} |\nabla u|^{p-2} \nabla u] = |x|^\beta |u|^{q-2} u & \text{in } B \\ u > 0 & \text{in } B, \quad u = 0 & \text{on } \partial B, \end{cases} \quad (\text{P1})$$

where $B = \{x \in \mathbb{R}^N : |x| < 1\}$ ($N \geq 3$) is a unit open ball centered at the origin, $-\infty < a < (N-p)/p$, $\beta > 0$ and $2 \leq p < q < \frac{Np+p\beta}{N-p(a+1)}$. This is a joint work with P. C. Carrião and D. G. de Figueiredo.