



ANALYSIS SEMINAR

Existence and multiplicity of positive solutions for a singular $p&q$ -Laplacian problem via sub-supersolution Method

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Abstract. In this work we show existence and multiplicity of positive solutions using the sub-supersolution method in a general singular elliptic problem which the operator is not homogeneous neither linear. More precisely, using the sub-supersolution method, we study this general class of problem

$$\begin{cases} -\operatorname{div}(a(|\nabla u|^p)|\nabla u|^{p-2}\nabla u) = h(x)u^{-\gamma} + f(x, u) \text{ in } \Omega, \\ u > 0 \text{ in } \Omega, \\ u = 0 \text{ on } \partial\Omega, \end{cases}$$

where $\gamma > 0$, Ω is a bounded domain in \mathbb{R}^N , $N \geq 3$, a , h and f are functions that the hypotheses we give later and $1 < p < N$.

References

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