

BRANCHES OF POSITIVE SOLUTIONS FOR A CLASS OF CONCAVE CONVEX PROBLEMS

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In this talk we study the existence of positive solutions to the following class of indefinite sublinear and superlinear problems

$$\begin{cases} -\Delta_p u = \lambda|u|^{q-2}u + f|u|^{\gamma-2}u & \text{in } \Omega, \\ u = 0 & \text{on } \partial\Omega, \end{cases}$$

Here Ω denotes a bounded domain in \mathbb{R}^N with C^1 -boundary $\partial\Omega$, λ is a real parameter, $1 < q < p < \gamma < p^*$, where p^* is the critical Sobolev exponent, $f \in L^\infty(\Omega)$. The nonlinearity f may change sign in Ω .

¹This is a joint work with Abiel Macedo - UFG