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WEBINAR

Grupo de Análise Funcional e Aplicações
Functional Analysis and Applications Group

Multiple solutions for the fractional p-Laplacian with jumping reactions

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Abstract

In this talk we consider a nonlinear elliptic equation driven by the degenerate fractional p- Laplacian, with Dirichlet type condition and a jumping reaction, i.e., $(p-1)$-linear both at infinity and at zero but with different slopes crossing the principal eigenvalue. Under two different sets of hypotheses, entailing different types of asymmetry, we prove the existence of at least two nontrivial solutions. Our method is based on degree theory for monotone operators and nonlinear fractional spectral theory. This work is in collaboration with Antonio Iannizzotto.

References

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2 S. AIZICOVICI, N.S. PAPAGEORGIOU, V. STAICU, The spectrum and an index for- mula for the Neumann p-Laplacian and multiple solutions for problems with a cross- ing nonlinearity, Discrete Contin. Dyn. Syst. Ser. A 25 (2009) 431–456.

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