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Title: *Hyperelasticity with Riesz fractional gradients*

Abstract:

Riesz s -fractional gradient is a nonlocal operator that satisfies some natural properties required for a gradient-like operator and has a degree of differentiability of order $0 < s < 1$. The space of L^p functions whose Riesz gradient is in L^p are the Bessel potential spaces. In this talk we explain the vectorial calculus of variations based on Riesz gradients, with applications in nonlinear elasticity. We will see how the classical concepts of polyconvexity and quasiconvexity apply in this context.

Joint work with José C. Bellido and Javier Cueto.