

# WEBINAR

## Grupo de Análise Funcional e Aplicações Functional Analysis and Applications Group

### Some classical operators on vanishing Morrey spaces

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#### Abstract

In this seminar, the work we developed with Professor Alexandre Almeida has been introduced. In our study we considered subspaces of Morrey spaces defined in terms of various vanishing properties of functions. Such subspaces were recently used to describe the closure of  $C_0^\infty \mathbb{R}^n$  in Morrey norm. In the first part of our work we showed that these subspaces are invariant with respect to some classical operators of harmonic analysis, such as the Hardy-Littlewood maximal operator, singular type operators and Hardy operators. We also showed that the vanishing properties defining those subspaces are preserved under the action of Riesz potential operators and fractional maximal operators. In the second part we carried our results to generalized Morrey spaces and showed that certain vanishing properties defining closed subspaces of generalized Morrey spaces are preserved under the action of various classical operators of harmonic analysis, such as maximal operators, singular-type operators, Hardy operators, and fractional integral operators.

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