UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE E INFORMATICHE

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SEMINARIO DI ANALISI MATEMATICA

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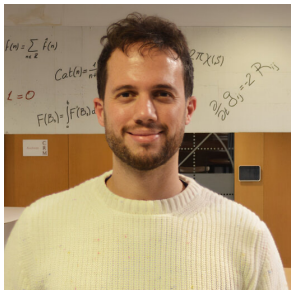

Martedì 06 maggio 2025, ore **15.30**

Aula G, Plesso di Matematica

H-compactness for nonlocal linear operators in fractional divergence form

In this talk, we present a new result on the compactness of non-symmetric and nonlocal linear operators in fractional divergence form with respect to the H-convergence.

Specifically, we consider cases where the oscillations of the coefficient matrices are prescribed outside the reference domain. The compactness argument we introduce overcomes the limitations of classical localization techniques, which mismatch with the nonlocal nature of the operators.
In the second part of the presentation, we explore the case of symmetric operators and show an equivalence between the H-convergence of the nonlocal operators and the Gamma-convergence of the corresponding energies.
Finally, we discuss a set of open problems and new research directions arising from this work.

This research is carried out in collaboration with Maicol Caponi (University of L'Aquila) and Alessandro Carbotti (University of Salento).

Organizzatore: Filippo Cagnetti