H-COMPACTNESS FOR NONLOCAL LINEAR OPERATORS IN FRACTIONAL DIVERGENCE FORM

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This poster presents a new compactness result about the H-convergence of nonlocal linear operators in fractional divergence form, where the oscillations of the matrices are prescribed outside the reference domain. Our compactness argument bypasses the failure of the classical localisation techniques that mismatch with the nonlocal nature of the operators involved.

In the symmetric case, we establish an equivalence between nonlocal H-convergence and Γ-convergence. This leads to a second, fully variational proof of the H-compactness via Γ-compactness.

This work is joint with Maicol Caponi (University of L'Aquila) and Alessandro Carbotti (University of Salento).

References

[1] CAPONI M., CARBOTTI A., MAIONE A., *H-compactness for nonlocal linear operators in fractional divergence form*, arXiv: 2408.10984

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