

# Nonlocal-to-local $L^p$ -convergence of convolution operators with anisotropic kernels

Christoph Hurm

## Abstract

In this talk, we want to generalize the results in [1]. In particular, we extend the analysis to convolution operators with *anisotropic* kernels, i.e. we do not assume the kernel to be radially symmetric. We intend to show that the corresponding nonlocal operator converges to a local differential operator and moreover, we want to establish rates of convergences with respect to the  $L^p$ -norm for  $1 < p < \infty$ .

- [1] H. Abels, C. Hurm. *Strong Nonlocal-to-Local Convergence of the Cahn-Hilliard Equation and its Operator*, J. Differential Equations, 402: 593-624, 2024.