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Determining coefficients for a fractional p-Laplace equation from exterior measurements

In this talk, we will consider an inverse problem of determining the coefficients of a fractional p-Laplace equation in the exterior domain. Assuming suitable local regularity of the coefficients in the exterior domain, we offer an explicit reconstruction formula in the region where the exterior measurements are performed. This formula is then used to establish a global uniqueness result for real-analytic coefficients. In addition, we also derive a stability estimate for the unique determination of the coefficients in the exterior measurement set.

This is a joint work with Yi-Hsuan Lin and Philipp Zimmermann.