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An inverse problem for the p-Laplacian

We study an inverse problem for strongly nonlinear elliptic equations modelled after the p-Laplacian. It is proved that the boundary values of a conductivity coefficient are uniquely determined from boundary measurements given by a nonlinear Dirichlet-to-Neumann map. The proofs work with the nonlinear equation directly instead of being based on linearization. In the complex valued case we employ complex geometrical optics type solutions based on p-harmonic exponentials, while for the real case we use p-harmonic functions first introduced by Wolff. This is joint work with Xiao Zhong (University of Jyväskylä).