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Matrix A_p weights, degenerate Sobolev spaces, and mappings of finite distortion.

Abstract

We study degenerate Sobolev spaces where the degeneracy is controlled by a matrix A_p weight. We prove that the classical Meyers-Serrin theorem, H = W, holds in this setting. As applications we prove partial regularity results for weak solutions of degenerate p-Laplacian equations, and in particular for mappings of finite distortion.

Talk time: 07/22/2016 4:00PM— 07/22/2016 4:20PM
Talk location: Crow 204

Special Session: Harmonic analysis. Organized by K. Bickel.