1145-35-221 **Ariel Barton*** (`aeb019@uark.edu`). *Extrapolation of well posedness for higher order elliptic systems with rough coefficients.*

We establish well posedness of certain boundary value problems for higher order differential equations in the divergence form $\nabla^m \cdot A\nabla^m u = \nabla^m \cdot \dot{H}$, where m is a positive integer and where $\dot{H}$ and A are given functions.

Specifically, we establish well posedness for the Dirichlet problem with boundary data in a Besov space $\dot{B}^s_{p,p}$, $p \leq 1$, given well posedness for appropriate values of s and $p > 1$. We work with smoothness parameter s between 0 and 1; this allows us to consider inhomogeneous differential equations, that is, $\nabla^m \cdot A\nabla^m u = \nabla^m \cdot \dot{H}$ rather than $\nabla^m \cdot A\nabla^m u = 0$.

Combined with results of Maz'ya, I. Mitrea, M. Mitrea, and Shaposhnikova, this allows us to establish new well posedness results for higher order operators whose coefficients are in or close to the space VMO, for the biharmonic operator, and for fourth-order operators close to the biharmonic operator. (Received August 21, 2018)