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Jill Pipher* (jpipher@math.brown.edu). *Nonsmooth boundary value problems.*

The regularity properties of solutions to linear partial differential equations in domains depend on the structure of the equation, the degree of smoothness of the coefficients of the equation, and of the boundary of the domain. Quantifying this dependence is a classical problem, and modern techniques can answer some of these questions with remarkable precision. For both physical and theoretical reasons, it is important to consider partial differential equations with non-smooth coefficients. We'll discuss how some classical tools in harmonic and complex analysis have played a central role in answering questions in this subject at the interface of harmonic analysis and PDE. (Received August 04, 2017)