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Irina Mitrea* (imitrea@wpi.edu), 100 Institute Road, Worcester Polytechnic Institute, Department of Mathematical Sciences, Worcester, MA 01609. *Recent Progress in the Area of Elliptic Boundary Value Problems on Rough Domains*. Preliminary report.

I will survey some recent developments in the area at the crossroads between Partial Differential Equations, Harmonic Analysis, and Geometric Measure Theory. This is part of an effort to understand the extent to which the classical theory can be adapted to a setting in which the underlying domain is not locally the graph of a function, but instead has properties which can be described in the geometric measure theoretic language. This includes both second order and higher order operators. (Received January 22, 2010)