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Ivan Blank, Department of Mathematics, Kansas State University, Manhattan, KS 66506, and Zheng Hao* (haozheng@math.ksu.edu), Department of Mathematics, Kansas State University, Manhattan, KS 66506. The Obstacle Problem for Elliptic Operators in Divergence Form.

Recently, Blank and Teka developed some of the theory for elliptic operators in nondivergence form with coefficients in VMO. We describe how we have shown similar results for the divergence form version of the obstacle problem with coefficients in VMO, including existence, uniqueness, nondegeneracy, optimal regularity, and measure stability. In fact, we now even have a stronger version of Caffarelli's regularity theory than Blank and Teka proved, as we can show that the free boundary is a Reifenberg Vanishing set near regular points. This talk is based on joint work with Blank. (Received August 06, 2013)