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Svitlana Mayboroda*, svitlana@math.purdue.edu. *Well-posedness of boundary problems for elliptic operators with complex bounded measurable coefficients.*

I will discuss the questions of well-posedness in L^p for regularity, Dirichlet, and Neumann problems associated to elliptic operators with complex bounded measurable coefficients. In particular, I will prove that the solvability of the regularity problem does not imply the solvability of the dual Dirichlet problem for general elliptic operators with complex bounded measurable coefficients. This is strikingly different from the case of real operators, for which such an implication was established in 1993 by C.Kenig, J. Pipher [Invent. Math. 113] and since then has served as an integral part of many results. (Received January 17, 2011)