Meeting: 1004, Bowling Green, Kentucky, SS 12A, Special Session on Partial Differential Equations and Their Applications

1004-35-158 **Russell Brown***, Department of Mathematics, University of Kentucky, Lexington, KY 40506-0027, and **Luca Capogna** and **Loredana Lanzani**. *The mixed problem in two-dimensional Lipschitz domains.* Preliminary report.

Let Ω be domain and suppose that $\partial\Omega$ is the disjoint union of two sets D and N. We consider the mixed problem for the Laplacian:

$$\begin{cases} \Delta u = 0 & \text{on } \Omega \\ u = f_D & \text{on } D \\ \frac{\partial u}{\partial \nu} = f_D & \end{cases}$$

We discuss a method for solving this problem in certain two-dimensional Lipschitz domains when the data is taken from L^p-spaces for p near 1. (Received January 23, 2005)