

1077-35-1836

Katharine Ott* (katharine.ott@uky.edu), 715 Patterson Office Tower, Lexington, KY 40506,
and **Irina Mitrea**. *The regularity problem for the Lamé system on curvilinear polygons in two dimensions.*

In this talk I will discuss sharp well-posedness results for the regularity problem for the Lamé system of elastostatics in the class of curvilinear polygons in two dimensions. The key technical ingredient is obtaining invertibility properties for the boundary version of the single layer potential operator S associated with the Lamé system acting from $L^p(\partial\Omega)$ onto $L_1^p(\partial\Omega)$, $1 < p < \infty$, whenever Ω is an infinite sector in two dimensions of aperture $\theta \in (0, 2\pi)$. This is joint work with I. Mitrea. (Received September 21, 2011)