

1125-35-1520 **Hussein Awala*** (hussein.awala@temple.edu), Department of Mathematics, Temple University, Wachman Hall/ 1805 N Broad st, Philadelphia, PA 19122. *Validated Numerics Methods for Mixed Boundary Value Problem for the System of Elastostatics.*

Elliptic boundary value problems with mixed Dirichlet and Neumann type boundary conditions arise naturally in connection with physical phenomena such as conductivity, heat transfer, elastic deformations, and electrostatics. In my talk I will discuss recent well-posedness results for the mixed boundary problem for the system of elastostatics in infinite sectors in two dimensions. These results are obtained through a blend of Calderon-Zygmund theory methods, Mellin transform techniques, and validated numerics. This work is part of an ongoing collaboration project with Irina Mitrea and Warwick Tucker. (Received September 17, 2016)