

**Meeting:** 1003, Atlanta, Georgia, SS 4A, AMS-SIAM Special Session on Theoretical and Computational Aspects of Inverse Problems, I

1003-35-673      **Gang Bao\*** (baog@msu.edu), Wells Hall, Department of Mathematics, Michigan State University, East Lansing, MI 48824-1027. *Inverse Medium Scattering for Acoustic and Electromagnetic Wave Propagation.*

Recent progress on inverse medium scattering problems will be discussed. Computational algorithms based on a continuation approach for solving the inverse problems will be introduced. Both fixed and multiple frequency data will be considered. Questions on regularity of the solutions for the model equations will be addressed. Issues on convergence of the continuation algorithm and related uncertainty principle will be examined. On-going research projects will also be highlighted. (Received September 27, 2004)