Marshall University Department of Mathematics & Physics
Advanced Research Initiative

Invited Speaker

Dr. Isaac Harris

Department of Mathematics
Purdue University

"Transmission Eigenvalue Problems for a Scatterer with a Conductive Boundary"

Friday, November 10, 2023 • Smith Hall 518 • 4:00pm

Abstract

In this talk, we will investigate the acoustic transmission eigenvalue problem associated with an inhomogeneous media with a conductive boundary. These are a new class of eigenvalue problems that are not elliptic, not self-adjoint, and non-linear, which gives the possibility of complex eigenvalues. The talk will consider the case of an Isotropic and Anisotropic scatterer. We will discuss the existence of the eigenvalues as well as their dependence on the material parameters. Because this is a non-standard eigenvalue problem, a discussion of the numerical calculations will also be highlighted. This is joint work with: O. Bondarenko, V. Hughes, A. Kleefeld, and J. Sun.