

Transmission Eigenvalues for Spherically Stratified Media

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The transmission eigenvalue problem plays a central role in the use of sampling methods to solve inverse scattering problem for acoustic and electromagnetic waves. In particular, it has been shown that the real transmission eigenvalues can be determined from the scattering data and used to obtain estimates on the index of refraction of the scattering object. The speaker and his collaborator concentrate on inverse problems in which the existence of complex eigenvalues is the main topic of discussion. It turns out that Mary Cartwright's class of entire functions of exponential type plays an important role. This is a joint work with Prof David Colton at the University of Delaware.