

NUMERICAL ANALYSIS AND SCIENTIFIC COMPUTING
SEMINAR

Direct Sampling Algorithms in Inverse Scattering

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Abstract: In this talk, we will discuss a recent qualitative imaging method referred to as the Direct Sampling Method for inverse scattering. This method allows one to recover a scattering object by evaluating an imaging functional that is the inner-product of the far-field data and a known function. It can be shown that the imaging functional is strictly positive in the scatterer and decays as the sampling point moves away from the scatterer. The analysis uses the factorization of the far-field operator and the Funke-Hecke formula. This method can also be shown to be stable with respect to perturbations in the scattering data. We will discuss the inverse scattering problem for both acoustic and electromagnetic waves.

Friday, November 20, 2020, 2:40 pm
<https://emory.zoom.us/j/95900585494>

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