

TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, April 15 2019, 2:40 p.m.

*Two inverse problems for hyperbolic PDE in
three space dimensions*

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Abstract: We consider two inverse problems for hyperbolic PDE in three space dimensions. The two problems are associated with a single hyperbolic PDE with a zero order coefficient and the goal is the recovery of this coefficient from two different types of “backscattering data” - backscattering data coming from a fixed offset distribution of sources and receivers on the boundary or backscattering data coming from a single incoming spherical wave. For these problems we prove a stability result provided the difference of the two coefficients is horizontally or angularly controlled respectively. Our work adapts the techniques used by Eemeli Blåsten, Rakesh and Gunther Uhlmann to solve problems similar to theirs.