TEMPLE UNIVERSITY

Department of Mathematics

Analysis Seminar

Room 617 Wachman Hall

Monday, April 11, 2016, 2:40 p.m.

Higher dimensional scattering theory and integral representation formulas

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Abstract: In this talk I will answer the following basic question:

What are the optimal assumptions, of geometric and analytic nature, which guarantee that a null-solution u of the Helmholtz operator $\Delta + k^2$ in an exterior domain Ω can be represented in terms of layer potentials naturally associated with the said Helmholtz operator and given domain?

This work, at the interface between Geometric Measure Theory, Harmonic Analysis, Scattering Theory, and Clifford Analysis, generalizes and unifies classical results of Sommerfeld, Weyl, Müller, and Calderón.