DG/PDE/IP SEMINAR

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PADELFORD C-36
3:50–5PM

Global Uniqueness for Formally Determined Inverse Obstacle Scattering Problems

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In this talk, we will address some recent results on the unique determination of obstacles by using acoustic or electromagnetic far-field measurements. It is shown that a general polyhedral scatterer of perfect conductor in $\mathbb{R}^3$ can be uniquely determined by a single electric far-field measurement, improving the previous results to the optimal case. The novel techniques developed can also be used to obtain a similar uniqueness result in inverse acoustic obstacle scattering by using $N-1$ far-field measurements for a $\mathbb{R}^N (N \geq 2)$ problem. In the acoustic case, we need not to know the *a priori* physical properties of the underlying scatterer.

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