

Uniqueness on the Class of Odd-Dimensional Starlike Obstacles with Cross Section Data

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We determine the uniqueness on starlike obstacles by using the cross section data. We see cross section data as spectral measure in polar coordinate at far field. Cross section scattering data suffice to give the local behavior of the wave trace. These local trace formulas contain the geometric information on the obstacle. Local wave trace behavior is connected to the cross section scattering data by Lax-Phillips' formula. Once the scattering data are identical from two different obstacles, the short time behavior of the localized wave trace is expected to give identical heat/wave invariants.

Subjects: **Analysis of PDEs (math.AP)**; Spectral Theory (math.SP)

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