JOINT INVERS PROBLEM AND DIFFERENTIAL GEOMETRY/PDE SEMINAR

Wednesday, February 14, 2007
Padelford C-36
3:50-5pm

Local lens rigidity for a class of non-simple Riemannian manifolds

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Let σ be the scattering relation on a compact Riemannian manifold M with non-necessarily convex boundary, that maps initial points of geodesic rays on the boundary and initial directions to the outgoing point on the boundary and the outgoing direction. Let ℓ be the length of that geodesic ray. We study the question of whether the metric g is uniquely determined, up to an isometry , by knowledge of σ and ℓ restricted on some subset D. We allow possible conjugate points but we assume that the conormal bundle of the geodesics issued from D covers T^*M; and that those geodesics have no conjugate points. Under an additional topological assumption, we prove that σ and ℓ restricted to D uniquely recover an isometric copy of g locally near generic metrics, and in particular, near real analytic ones.

For more information about this seminar, visit the DG/PDE Seminar Web page (from the Math Department home page, `www.math.washington.edu`, follow the link **Seminars, Colloquia, and Conferences**).

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