CARLOS VALERO SAEZ, ICMAT

The Calderón problem for harmonic spinors

We consider the Calderón problem for the Dirac operator over locally conformally real-analytic (LCRA) manifolds with boundary. More precisely, we define an analogue of the Dirichlet-to-Neumann map for the Dirac operator, and show that if the metric is locally conformal to a real-analytic metric in some coordinates, then this map determines the conformal class of the manifold. The class of LCRA manifolds includes conformally Einstein manifolds, as well as all smooth surfaces.