SEMINAR

on

COMPLEX AND HYPERCOMPLEX ANALYSIS

Sala Sousa Pinto, Departamento de Matemática

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Fractional Dirac operators and the anisotropic Calderón problem

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I will discuss joint work with Gunther Uhlmann regarding the anisotropic fractional Calderon problem for Dirac operators on closed manifolds; these give fractional analogues of Maxwell systems. Namely, we show that knowledge of the source-to-solution map of the fractional Dirac operator, for data sources supported in an arbitrary open set in a Riemannian manifold allows one to reconstruct the Riemannian manifold, its Clifford module structure, and the associated connection (up to an isometry fixing the initial set). Time permitting I will discuss on-going work regarding Chang-Gonzalez type extensions for fractional systems.