Lens Rigidity for a Particle in a Yang-Mills Field

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In this talk, the speaker considers an inverse problem related to the motion of a classical colored spinless particle under the influence of an external Yang-Mills potential A on a compact manifold with boundary of dimension ≥ 3. The speaker shows that under suitable convexity assumptions, he and his collaborators can recover the potential A, up to gauge transformations, from the lens data of the system, namely, scattering data plus travel times between boundary points. The talk is based on joint work with Gabriel Paternain and Gunther Uhlmann.