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Title: A fixed energy Born approximation for the Calderón problem.

Abstract: The Born approximation was introduced by Max Born in 1926 as a strategy to recover a potential from its scattering amplitude. This notion can be used to solve more general inverse problems, even of ill-posed nature. We show that it can be introduced in the context of the Calderón problem (recovering a potential from the Dirichlet-to-Neumann map of a Helmholz equation) in order to solve all relevant aspects of the inverse problem: uniqueness, stability and reconstruction (both from an analytic and numerical point of view) in the case of potentials with radial symmetry. It is also useful in order to shed light on the difficult problem of characterizing the set of Dirichlet-to-Neumann maps. This is joint work with Cristóbal Meroño and Daniel Sánchez-Mendoza (UPM)..
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