Reconstructing a magnetic field from boundary measurements

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We consider the inverse problem of recovering a magnetic field and electric potential from boundary measurements related to the stationary magnetic Schrödinger operator. The boundary measurements are given by the Dirichlet-to-Neumann map.

This is the second (and easier) of two talks, and I will not assume familiarity with the first talk. I will discuss how to construct exponentially growing solutions to the magnetic Schrödinger equation, and how to use these solutions to reconstruct the magnetic field by inverting a certain nonlinear Fourier transform.