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Shitao Liu* (s13fa@virginia.edu), P.O.Box 400137, Ker chof Hall, Department of Mathematics, University of Virginia, Charlottesville, VA 22904, and **Roberto Triggiani** (rt7u@virginia.edu), P.O.Box 400137, Kerchof Hall, Department of Mathematics, University of Virginia, Charlottesville, VA 22904. *Global uniqueness in determining electric potentials for a system of strongly coupled Schrödinger equations with magnetic potential terms.*

We consider the inverse problem of determining two unknown electric potential coefficients for a system of two general strongly coupled Schrödinger equations, with magnetic potential terms and with Neumann boundary conditions, from Dirichlet measurements on a portion Γ_1 of the boundary. Under suitable geometrical assumptions on the complementary unobserved portion Γ_0 of the boundary, we show that one can uniquely determine the two unknowns from Dirichlet boundary measurements on Γ_1 over an arbitrarily short time interval. The proof is based on a recent developed Carleman estimate for single Schrödinger equations. It also takes advantage of a convenient route “post-Carleman estimates” suggested by V.Isakov. (Received August 29, 2010)