

Recovery of coefficients in semilinear transport equations

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Abstract: We consider the inverse problem for time-dependent semilinear transport equations. We show that time-independent coefficients of both the linear (absorption or scattering coefficients) and nonlinear terms can be uniquely determined, in a stable way, from the boundary measurements by applying a linearization scheme and Carleman estimates for the linear transport equations. We establish results in both Euclidean and general geometry settings. This talk is based on joint work with Ru-Yu Lai and Gunther Uhlmann.