

GLOBAL UNIQUENESS OF A
MULTIDIMENSIONAL INVERSE PROBLEM FOR
A NONLINEAR PARABOLIC EQUATION BY A
CARLEMAN ESTIMATE

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Abstract

An inverse problem with the single measurement data for a general nonlinear parabolic equation $u_t = F(u_{ij}, \nabla_x u, x, t, q(u, y))$ in n -D is considered. The unknown coefficient $q(u, y)$ depends on the solution u and $(n - 1)$ spatial variables $y = (x_2, \dots, x_n)$. Such problems were not studied in the past for $n \geq 2$. A global uniqueness result is proven by the method of Carleman estimates.