

**Identification of Potential in Diffusion Equations: Conditional Stability and Discrete
Approximation**

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We investigate the conditional stability of recovering a space-dependent potential in a (sub)diffusion equation from noisy final-time data. Next, a completely discrete scheme is developed by using the Galerkin finite element method in space and the finite difference method in time, and then a fixed point iteration is applied to the recovery. We show the linear convergence of the iteration algorithm by the contraction mapping theorem and present a thorough error analysis. The numerical experiments are provided to illustrate our theoretical results.