

Approximate solution of Backward problem for Kirchhoff's model of Parabolic type with Discrete random noise

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In this work, we deal with the final boundary value problem for non-local Kirchhoff's model of parabolic type with discrete random noise. We first discuss the instability of solutions. And then we establish the regularized solution by the trigonometric method in non-parametric regression associated with the truncated expansion method. In addition, under prior assumptions on the exact solution, the convergence rate is obtained. What is more, the effectiveness and suitability of our results are justified via numerical experiments..

Keywords: Kirchhoff's model; Ill-posed problem; Random noise; Regularized solution.

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