

MICHIGAN STATE UNIVERSITY
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The finite difference method for Caputo-type
parabolic equation with fractional Laplacian

Abstract

In this talk, we present the finite difference method for Caputo-type parabolic equation with fractional Laplacian, where the time derivative is in the sense of Caputo with order in $(0, 1)$ and the spatial derivative in the typical fractional Laplacian. The stability, convergence, and error estimate are displayed. And illustrative example is also provided which supports the theoretical analysis.