

## **Finite difference method of fractional parabolic partial differential equations with variable coefficients**

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**Abstract:** In this study, we consider the fractional parabolic partial differential equations with variable coefficients with the Caputo fractional derivative. We construct a difference scheme based on Crank- Nicholson method. Stability estimate for the solution of this difference scheme is obtained with a sufficient condition.

**Keywords:** difference scheme, stability, Caputo fractional derivative.

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