

# On the stable difference scheme for the nonlocal fractional PDE

Allaberen Ashyralyev<sup>1</sup>, Zafer Cakir<sup>2</sup>

<sup>1</sup> *Department of Mathematics, Near East University, Nicosia, TRNC, Mersin 10, Turkey.*

*Peoples' Friendship University of Russia (RUDN University), Moscow , Russia.*

*Institute of Mathematics and Mathematical Modeling 050010, Almaty, Kazakhstan.*

<sup>2</sup> *Department of Mathematical Education, Alanya Alaaddin Keykubat University, Antalya, Turkey.*

*aallaberen@gmail.com      zafer.cakir@alanya.edu.tr*

**Abstract:** In the present study, we consider the nonlocal boundary value problem for parabolic equations. Firstly we construct the first order of accuracy difference scheme for solution of nonlocal boundary value problem using the self-adjoint positive defined operator  $A$ . Then the stability estimates for the solution of these difference scheme and some theoretical results are given.

**Keywords:** Nonlocal BVP; fractional PDE; difference schemes; stability.

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