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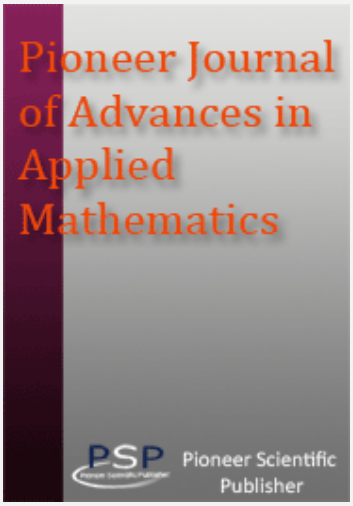

EXISTENCE, UNIQUENESS AND CONTINUOUS DEPENDENCE OF SOLUTION OF NONLOCAL BOUNDARY CONDITIONS OF MIXED PROBLEM FOR SINGULAR PARABOLIC EQUATIONS IN NONCLASSICAL FUNCTION SPACES

Moussa Zakari Djibibe and Kokou Tcharie

Abstract

This paper is devoted to proving the existence and continuous dependence of a strong solution of a mixed problem with integral and Dirichlet boundary conditions a certain singular parabolic equation. A functional analysis method is used. The proof is based on an energy inequality [Moussa Zakari Djibibe, K. Kokou Tcharie and N. Iossifovich Yurchuk, An energy inequality and its applications of nonlocal boundary conditions of mixed problem for singular parabolic equations in nonclassical function spaces, International Scholarly Research Network ISRN Applied Mathematics, Volume 2012, Article ID 138308, 9 pages doi:10.5402/2012/138308] and the density of the range of the operator generated by the studied problem.

Keywords and phrases: parabolic equation, strong solution, energy inequality, dense, mixed problem, nonlocal boundary conditions..