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On unique solvability of one nonlinear nonlocal with respect to the solution gradient nonstationary problem

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Abstract

© 2017, Allerton Press, Inc. We consider a parabolic equation whose space operator is a product of a nonlinear bounded function which depends on a nonlocal characteristic with respect to a solution gradient and a strongly monotone potential operator. We prove the existence and uniqueness of the solution in the class of the vector-valued functions with values in the Sobolev space.

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Keywords

generalized solution, nonlocal operator, parabolic equation, solvability, strongly monotone operator, uniqueness

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