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The finite element method explicit scheme for a solution of one problem of surface and ground water combined movement

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Abstract

© Published under licence by IOP Publishing Ltd. We investigate the initial-boundary value problem for the system of two nonlinear degenerate parabolic combined equations, when the one of equations is set in the domain we consider, and the second is set on the conducted section of this domain. With help of the semidiscretization methods with respect to time variable and finite element method (FEM) with respect to space variable we construct an explicit difference scheme. We obtained conditions which provide us convergence of constructed method. The result of convergence was obtained with the minimum conditions for smoothness of the initial data.

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