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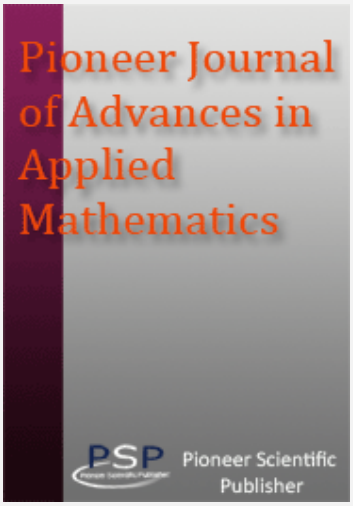

ABOUT THE INFLUENCE OF EVAPORATION AT FILTRATION IN A RECTANGULAR INTERCHANGE WITH A PARTICULARLY UNPERMATABLE VERTICAL WALL

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Abstract

We consider a plane steady-state filtration in a rectangular bridge with a partially impermeable vertical wall in the presence of evaporation from a free surface of groundwater. To study the effect of evaporation, a mixed multiparametric boundary-value problem of the theory of analytic functions is formulated and using the method of P. Y. Polubarinova-Kochina. Based on the proposed model, an algorithm is developed to calculate the dependence of efficiency and productivity of hydrodynamic analysis.

Keywords and phrases: filtration, evaporation, jumper, ground water, free surface, Polubarinova-Kochina method, complex velocity, conformal mappings, differential equations of the Fuchs class.