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INVESTIGATION OF TWO-PHASE FILTERATION PROBLEM OF NONCOMPRESSIBLE VISCOUS FLUIDS IN POROUS MEDIUM

Abstract

In the present paper one-dimensional two-phase filteration problem of non-compressible viscous fluids in porous medium is considered. According to the law of conservation of mass of substance the mathematical model of the investigated process is considered. After definite mathematical transformations the system of linear differential equations of composite type (parabolic and elliptic) is reduced to the system of nonlinear equations of parabolic type.

The formula for determination of the field of pressures depending on saturation and for distribution of saturation having the theoretical and practical important, is obtained.