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Deformations of Soil Massifs Under the Existence of Saline Solutions with Different Concentration and Temperature

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Abstract

The regularities of the influence of saline solutions' concentration and their temperature on the deformational properties of soils have been experimentally investigated and determined. At the background of experimental research and its statistical processing, nonlinear dependences in the form of polynomials of the deformation module and Lamé coefficients from the concentration of saline solutions and their temperature which allowed to improve the mathematical model of the stress–strain state of soil, taking into account nonlinear filtration and deformation processes occurring in soil masses under the condition of presence and filtration of saline solutions, have been obtained.

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