

Abstract

As a result of the change in the velocity, the total energy of the water (the water head) is also determined according to Bernoulli's relation as a speed dependent variable. On the other hand, the speed measured, which is a real speed, is a moderate speed, but the speed obtained through the software is measured in three directions, and is available in a geometric mean method with a measured average velocity. In this dissertation, the three-dimensional analysis of the effects of actual velocity coefficients and apparent velocity of water in soil was performed by software (Seep-W). This research is based on the data of Razali lands of Haraz Technological Development and Development Center in Mazandaran province. The average percentage of actual and apparent speed differences in different aggregates is about 15%. The percentage difference of actual and apparent heads in the suction is 25 cm to 20%. The average percentage difference between the real and apparent head is about 20%. The actual head measured at the suction is larger than the head, and the percentage difference increases with increasing suction. The results of the comparison of the measured values of the apparent and actual hydraulic conductivity show that the difference between the amount of hydraulic conductivity measured and the estimated value by the model has increased. On the other hand, it should be stated that in the sample of the soil tested, The measured hydraulic conductivity is more than simulated.

Keywords: apparent speed, actual velocity, head, apparent velocity of water in the soil



University of zabol
Graduate school
Faculty of Engineering
Department of Civil Engineering
The Thesis submitted for Degree of M.Sc
in the field of Civil Engineering –Water Engineering

**3D Dimensional analysis for the effect of real Velocity and
outward Velocity of Water in Soil by (SEEP-W)**

Supervisor:

Dr. H .Derakhshan

By:

A .Mir

Winter 2019