

Field scale parameterization for vadose zone dynamics using cross borehole radar data

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A study to clarify the hydrological processes in the vadose zone by using a time-laps geophysical methodology has been performed. Recently, estimation of soil hydraulic parameters, such as the hydraulic conductivity, using geophysics data has increasingly received attention. We report the study characterizing hydraulic parameters of the vadose zone using inter borehole radar data obtained from artificial ground water recharge test at the infiltration pit. A numerical study was carried out to obtain inversely the hydraulic parameters, such as soil water retention curve model parameters and hydraulic conductivity function using HYDRUS-2D. The forward simulation of soil water flow using obtained parameters could be used to construct the quasi 3D image of water flow in the vadose zone.