

## Estimation of the Pore Electrical Conductivity Using Dielectric Sensors

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**Abstract :** Under salinity conditions, we evaluate the performance of Hilhost (2000) model to predict pore electrical conductivity  $EC_p$  from dielectric permittivity and bulk electrical conductivity ( $EC_a$ ) using Time and Frequency Domain Reflectometry sensors (TDR, FDR). Using FDR\_WET sensor, RMSE of  $EC_p$  was 4.15 dS m<sup>-1</sup>. By replacing the standard soil parameter (K0) in Hilhost model by K0- $EC_a$  relationship, the RMSE of  $EC_p$  decreased to 0.68 dS m<sup>-1</sup>. WET sensor could give similar accuracy to estimate  $EC_p$  than TDR if calibrated values of K0 were used instead of standard values in Hilhost model.

**Keywords :** hilhost model, soil salinity, time domain reflectometry, frequency domain reflectometry, dielectric methods

**Conference Title :** ICSS 2022 : International Conference on Soil Science

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** May 05-06, 2022