

## 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 ECp from dielectric permittivity and bulk electrical conductivity (ECa) using Time and Frequency Domain Reflectometry sensors (TDR, FDR). Using FDR\_WET sensor, RMSE of ECp was 4.15 dS m<sup>-1</sup>. By replacing the standard soil parameter (K0) in Hilhost model by K0-ECa relationship, the RMSE of ECp decreased to 0.68 dS m<sup>-1</sup>. WET sensor could give similar accuracy to estimate ECp 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

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