

**ESTIMATION OF THE SCATTERING COEFFICIENT AT MICROWAVE  
FREQUENCIES OF DRY AND WET SOILS OF INDIA USING MEASURED  
VALUES  
OF DIELECTRIC CONSTANT AND RELATING THE SAME WITH THE  
CONSTITUENTS OF THE SOIL**

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**ABSTRACT**

The soil is characterized by its physical constituents like sand, silt and clay. The electrical parameters that are important for soil are its dielectric constant, emissivity and scattering coefficient. The dielectric constant of wet soil depends on amount of water present in the soil. In this study the dielectric constant of dry soil and wet soil with different moisture content is measured using waveguide cell method. The scattering coefficient is estimated using perturbation model for slightly rough surface for both polarization and different angles of incidence. The values of estimated scattering coefficient are related to constituents of the soil.