

ESTIMATION OF EMISSIVITY AND SCATTERING COEFFICIENT OF VEGETATION FROM MEASURED DIELECTRIC CONSTANT AT MICROWAVE FREQUENCIES

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ABSTRACT

The emission from the vegetation canopy depends on the type of vegetation and the frequencies at which the emission is measured. For studying the vegetation canopy of a tree, the dielectric constant of its constituent is measured at microwave frequencies. In this study the dielectric constant is measured using waveguide cell method and its scattering coefficient is estimated using perturbation model for slightly rough surface. The emissivity is estimated using emissivity model. The results obtained are useful for microwave remote sensing of vegetation canopy.