MEASUREMENT OF DIELECTRIC CONSTANT OF SALINE WATER AND ESTIMATION OFEMISSIVITY AND SCATTERING COEFFICIENT AT DIFFERENT PHYSICAL TEMPERATURESAT MICROWAVE FREQUENCIES

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ABSTRACT

The salinity and the physical temperature of ocean water vary from place to place and with depth of sea. This communication suggests microwave remote sensing of oceanic surface, by measuring dielectric constant of saline water with variable salinity at different physical temperatures using waveguide cell method. The scattering coefficient is estimated using perturbation model of slightly rough surface and emissivity of saline water is estimated using emissivity model at different angles of incidence and at different polarization with measured value of dielectric constant. This database is useful for designing of passive and active microwave sensors for remote sensing of oceanic surfaces.