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Exploration of SCATSAT-1 Ku Band Data to Develop MPDI and Assessment of Rice Crop Ecosystem using Brightness and Temperature

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***Abstract*:** Microwave remote sensing playing significant role especially where optical remote sensing and climate influence the data acquisition.SCATSAT-1 scatterometer launched by ISRO offers data in Ku band with SH and SV polarizations. Brightness temperature (BT) or radiance temperature is defined as the measurement of radiance released from atmosphere towards satellite sensor and is measured in temperature units similar to blackbody. The present study focuses on development of Multi-polarized difference index (MPDI) for rice crop. SCATSAT-1 derived BT and NDVI has been used to perform this study. The correlation between MPDI and NDVI is 0.84 for rice crop. The results shows that the MPDI influenced by the moisture. Therefore, it is concluded that MPDI will provide significant stats to testify and see the response of rice crop in horizontal, vertical polarization and temperature environment.

Keywords: Rice crop, BT, MPDI, NDVI, SCATSAT-1