

## Equatorial scintillations on the days of CEJ events

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On the days of counter electrojet(CEJ) events occurrences of equatorial scintillations at VHF to L1 band are studied in the context of emerging equatorial electrodynamic conditions. The scintillation observations are carried out from Raja Peary Mohan college centre (22.65°N, 88.36°E) situated near the northern crest of equatorial ionization anomaly (EIA). Total 225 CEJ events including both partial (PCEJ) and complete (CCEJ) distributed in the years 2012-2013 are considered. Investigation of different parameters of CEJ field variation are studied to find any correspondence with scintillation occurrences. It reveals that scintillation occurs 50% cases for the rising slope values  $\geq 10$  nT/hr after maximum negative excursion in CEJ but for slope value  $< 10$  nT/hr occurrence probability reduces to 7%. On the days of CEJ an extra field is superimposed on the normal EEJ field. The diurnal mean values, pertaining to normal electrojet days is subtracted from the diurnal values of EEJ under CEJ condition to get an estimate of extra field. A study of the extra field reveals that scintillation occurrence probability enhances to nearly 83% for evolution of positive extra field on CEJ days in the afternoon sector (1400-1800 IST) of equinoctial months. Partial CEJ days are found to be more susceptible to scintillation activities compared to Complete CEJ days. Available ionosonde data from an equatorial station Tirunelveli (8.7°N, 77.8°E) indicates most of the scintillations events are preceded by ESF occurrence. The statistical analysis reveals that initiation time of positive extra field as well as integrated value of the EEJ strength upto 1800 IST on CEJ days may be treated as suitable proxy indices for triggering electron density irregularities leading to scintillations. The results are discussed in terms of modulation in electric field leading to modifications in equatorial electrodynamics around the sunset hours as well as emerging scenario of probable wind dynamics.