



Intense scintillation events observed at polar and equatorial latitudes

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The understanding of the physical mechanisms causing scintillations is crucial for the mitigation of the ionospheric effects on the navigation and communication systems. INGV and University of Rennes IETR manage the same kind of GPS receivers specially modified for recording the phase and amplitude of the L1 signals and Total Electron Content (TEC) from L1 and L2. The INGV receivers are located at polar latitudes of both the poles: at Ny Alesund (Svalbard, Norway, 78.9°N, 11.9°E) and at Mario Zucchelli Station (Terra Nova Bay, Antarctica, 74.7°S, 164.1°E). The IETR receivers are located in Vietnam: at Hue (10.9°N, 106.6° E) and at Hoc Mon (10.9°N, 106.6°E). Thanks to this collaboration we present an unprecedented investigation of space weather events observed over different regions of the globe. The effort of this joint paper is to analyse some intense scintillation events to look at their differences and similarities trying to detect patches and bubbles, typical signatures of the ionospheric irregularities over polar and equatorial regions.

References

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