



GPS TEC and scintillations as signatures of the ionospheric plasma movement

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Some GPS TEC and scintillations receivers managed by the Institute of Engineering Surveying and Space Geodesy (IESSG) and the Istituto Nazionale di Geofisica e Vulcanologia (INGV) have been deployed to the ionosphere over mid and high latitude European region. This work represents the results of a joint investigation on the 30 October 2003 storm, highlighting the potentialities of a network of receivers located between the UK and Norway. The TEC and scintillation data have been opportunely analyzed revealing interesting features supported also by the ionospheric tomography produced by MIDAS (Multi-Instrument Data Analysis System, University of Bath). In particular, the investigation has been focused on a tentative reconstruction of the ionospheric plasma movement in which the electron density irregularities, possibly causing scintillations, should be embedded. The role of the IMF Bz and By components on the general dynamics derived from the experimental observations is also investigated and a first attempt on the interpretation of the results is given.