



The GALILEO navigation system and space weather effects in the polar cap

Kjellmar Oksavik (1,2) and Christer van der Meeren (1)

(1) Birkeland Centre for Space Science, Department of Physics and Technology, University of Bergen, Bergen, Norway (kjellmar.oksavik@ift.uib.no), (2) University Centre in Svalbard, Longyearbyen, Norway

We present observations of ionospheric scintillation in the polar cap seen by a brand new network of multi-constellation GALILEO receivers in Norway. In 2013 we installed receivers at four remote locations; Ny-Aalesund (78.92 N, 11.92 E), Longyearbyen (78.14 N, 16.03 E), Hopen (76.50 N, 25.01 E), and Bjornoya (74.50 N, 19.00 E). These receivers log signals from GALILEO, GPS and GLONASS at 50 Hz, providing unprecedented coverage of Total Electron Content (TEC) and scintillations over a wide area including Svalbard and the Barents Sea. In this presentation we show examples from the first year of operation, documenting how GALILEO signals can be used to study transient space weather events in the polar cap.