Panels (P)
International Space Weather Missions and Coordination: Current and Planned Missions (PSW.9)

HOW THE BRAZILIAN SPACE WEATHER REGIONAL WARNING CENTER (EMBRACE - INPE) WILL SUPPORT THE SCINTILLATION PREDICTION OBSERVATION RESEARCH TASK (SPORT)?

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The joint US-Brazil mission Scintillation Prediction Observation Research Task (SPORT) will enhance forecasts of disturbances that impact radio propagation and telecommunication by improving our understanding of the nature and evolution of equatorial ionospheric irregularities around sunset. The National Institute for Space Research (INPE), especially the Regional Space Weather Alert Center Brazil (Embrace/INPE), a partner in the SPORT mission, has an extensive terrestrial ionospheric observational network operated in different locations in Brazil to support and validate measurements, carried out in situ by the SPORT satellite. In fact, the instrumentation managed by EMBRACE has 7 ionosondes covering the equatorial and low latitude regions of Brazil. In addition, it operates a network with 15 magnetometers, 12 of which are installed throughout Brazil and 3 magnetometers installed in Argentina (2) and Chile (1). The distribution of the magnetometers' network includes latitudes from 02°36' S to 53°47' S and longitudes from 38°25' W to 67°46' W. This allows the detection of wave activities, mainly in Pc5 frequency, on the ground of this region. Consequently, it will contribute to the magnetometers' calibration on board the SPORT satellite through their conjunctions. EMBRACE also has 4 all-sky imagers that measure the OI 630 nm emission in Brazil's equatorial and low latitude regions. In addition, EMBRACE provides Total Electron Content (TEC) maps and scintillation products for the region with a high cadence. Therefore, all these instruments and products allow their use in real-time programs that require ionospheric information, such as Space Weather forecasting. We will present how this entire network of instruments will monitor the state before, during, and after the SPORT satellite's passage through the South American region to complete and reinforce the analysis of ionospheric irregularities.