TITLE: COMPARATIVE VALIDATION OF REALTIME SOLAR WIND FORECASTING USING THE UCSD HELIOSPHERIC TOMOGRAPHY MODEL

Authors: Peter MacNeice, Alexandre Taktakishvili, Bernard Jackson, John Clover, Mario Bisi, Dusan Odstrcil

Abstract: The University of California, San Diego 3D Heliospheric Tomography Model reconstructs the evolution of heliospheric structures, and can make forecasts of solar wind density and velocity up to 72 hours in the future. The latest model version, installed and running in realtime at the Community Coordinated Modeling Center(CCMC), analyzes scintillations of meter wavelength radio point sources recorded by the Solar-Terrestrial Environment Laboratory(STELab) together with realtime measurements of solarwind speed and density recorded by the Advanced Composition Explorer(ACE) Solar Wind Electron Proton Alpha Monitor(SWEPAM).The solution is reconstructed using tomographic techniques and a simple kinematic wind model. Since installation, the CCMC has been recording the model forecasts and comparing them with ACE measurements, and with forecasts made using other heliospheric models hosted by the CCMC. We report the preliminary results of this validation work and comparison with alternative models.