Simulations of the Earth's Magnetosphere-Ionosphere-Thermosphere during the Whole Heliosphere Interval

M. WILTBERGER[1], W. B. WANG[1], J. G. LYON[2], V. MERKIN[3]

[1] *National Center for Atmospheric Research*
[2] *Dartmouth College*
[3] *Boston University*

A consortium of international scientists have selected the Whole Heliosphere Interval (WHI) as period for coordinated observing and modeling with the goal of characterizing the 3-demensional heliospheric system. The campaign focuses on Carrington Rotation 2068 which ran form March 20 - April 16, 2008. In this presentation we examine the results of an effort to simulate the response of the geospace system using the Coupled Magnetosphere Ionosphere Thermosphere (CMIT) model driven by observations of the solar wind during the entire Carrington Rotation. In this interval there where two Corotating Interaction Regions (CIR) that resulted in significant geomagnetic disturbances. We will characterize these disturbances and assess the role of the interaction region in driving the highly coupled system. We will also examine the role the recurring nature of these CIRs plays in driving the system especially in the thermosphere. In the final phase of this presentation we will discuss the results of using predictions of the solar wind from heliospheric modeling to drive the CMIT in order to quantify how well these models do in reproducing the structures seen in geospace.