



Validation studies of the Solar Wind driven autoregressive model for Ionospheric short-term Forecast (SWIF)

Ioanna Tsagouri (1), Ja Soon Shim (2), and Maria M. Kuznetsova (3)

(1) National Observatory of Athens, Penteli, Greece (tsagouri@noa.gr), (2) CUA/ NASA GSFC, Greenbelt, MD, USA, (3) NASA GSFC, Greenbelt, MD, USA

The SWIF model (Solar Wind driven autoregressive model for Ionospheric short-term Forecast) is operationally implemented in the DIAS system (<http://dias.space.noa.gr>) to provide ionospheric forecasting products and services for the European region. These include alerts and warnings for upcoming ionospheric disturbances, as well as single site and regional forecasts of the foF2 characteristic over Europe up to 24 hours ahead. The model undergoes continuous evaluation in its performance to test prediction efficiency and accuracy over a range of disturbed space weather conditions, from moderate to intense. This presentation aims to summarize the results of recent validation studies that are performed in collaboration with the Community Coordinated Modeling Center (CCMC) at the Goddard Space Flight Center as part of the ionospheric disturbance challenges to expand the tests from regional to global scale. The validation tests exploit foF2 observations obtained in ten ionospheric locations distributed in Northern and Southern Hemispheres, from high to low latitudes, during seven storm events. Several metrics parameters are estimated to test the performance of the model in meeting the users requirements.