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Stormtime Longitudinal Variability in the Ionosphere-Thermosphere System

Ludger Scherliess

Utah State University, ludger.scherliess@usu.edu

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PI Name : Ludger Scherliess	NASA Proposal Number 18-LWS18_2-0042
Organization Name : Utah State University	

Proposal Title : **Stormtime Longitudinal Variability in the Ionosphere-Thermosphere System**

SECTION IX - Program Specific Data

Question 1 : Short Title:

Answer: Ionosphere-Thermosphere Longitudinal Variability

Question 2 : Type of institution:

Answer: Educational Organization

Question 3 : Will any funding be provided to a federal government organization including NASA Centers, JPL, other Federal agencies, government laboratories, or Federally Funded Research and Development Centers (FFRDCs)?

Answer: Yes

Question 4 : Is this Federal government organization a different organization from the proposing (PI) organization?

Answer: Yes

Question 5 : Does this proposal include the use of NASA-provided high end computing (HEC)?

Answer: No

Question 6 : HEC Request Number

Answer: N/A

Question 7 : Research Category:

Answer: 2) Data analysis/data restoration/data assimilation/Earth System modeling (including Guest Observer Activities)

Question 8 : Flight Services

Answer: No

Question 9 : Data Management Plan (Part 1)

Answer:

Types of data produced

Our data assimilation models will produce model output for several geomagnetically active periods as well as for the year 2012. The final data product will consist of model output from our data assimilation models in 15-minute increments for the periods selected. The output will consist of TEC, NmF2, hmF2 and the F-region neutral winds for low- and mid-latitudes. Furthermore value-added observational data will be generated for these periods.

Our data will be stored on hard drives in the lab, with monthly backups on external hard drives.

Data and metadata standards

The model data will be written in NetCDF format with each file corresponding to one day worth of model data in 15-minute increments. The NetCDF files will also include the metadata corresponding to the model output. This metadata will consist of the corresponding time, day, month and year of the model output, the version number of the data assimilation models that were used, and the geophysical conditions for the time of the model output (Kp index, F10.7cm flux). All data (TEC, NmF2, hmF2 and the F-region neutral winds and electric fields) will be made available together with explanatory metadata. The value-added observational data will be provided in ASCII format together with its associated metadata.

Policies for access and sharing

The data (NetCDF and ASCII files) and metadata (included in the NetCDF and ASCII files) will be digitally archived at USU in the DigitalCommons@USU repository (digitalcommons.usu.edu). The size of each individual file will be <4GB. All data will be made available together with explanatory metadata to any researcher who has access to the internet and can download the files from the Digital Commons repository at USU. The web link will be provided on all publications and will be made available upon request. Data used to create charts and figures will be available at the time of publication.

Policies for reuse, redistribution, and derivatives

The data will be available for use by non-group members under the following conditions: all published work based on the data should follow best practice of data citation and acknowledge the source of the data.

Plans for access to data used in publications

The data (NetCDF and ASCII files) and metadata (included in the NetCDF and ASCII files) will be digitally archived at USU in the DigitalCommons@USU repository (digitalcommons.usu.edu). Data displayed in charts and figures will be available at the time of publication. The web link will be provided on all publications and will be made available upon request.

Plans for archiving and preservation

We will house our data in a publicly accessed open access repository, Digital Commons, operated by the USU Libraries. This system is an open, web searchable archive of all files we provide, and all data sets will be loaded to this system. Digital Commons has a primary and two backup archives "in the cloud" at servers in three sites.

The PI (Ludger Scherliess) shall be responsible for data management and monitoring the data management plan. The PI will oversee the transfer of files to the Digital Common Repository and will check that each file has a .txt file of metadata that can be accurately interpreted. Decisions for transferring responsibility of the data, once the PI is no longer available, will rest with the custodians of the Digital Commons repository at USU who will follow USU protocols.

Question 10 : Data Management Plan (Part 2)

Answer:

Question 11 : Team Members Missing From Cover Page:

Answer:

Question 12 : Does this proposal contain information and/or data that are subject to U.S. export control laws and regulations including Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR)?

Answer: No

Question 13 : I have identified the export-controlled material in this proposal.

Answer: N/A

Question 14 : I acknowledge that the inclusion of such material in this proposal may complicate the government's ability to evaluate the proposal.