



PRediction Of Geospace Radiation Environment and Solar wind parameterS 637302

5th Project Meeting
July 23, 2017

PortBlue Hotel, Mallorca, Spain

Minutes

Attendees

Robertus von Fay-Siebenburgen (USFD Coordinator), Misha Balikhin (USFD), Natalia Ganushkina (FMI), Nikita Assev (GFZ), Simon Walker (USFD), Richard Boynton (USFD).



Summary of Meeting

WP 2

Misha talked to Tony Arber earlier in the week regarding the provenance solar wind parameter forecasts from AWSoM/SWIFT

These parameters are required to run PROGRESS models for geomagnetic indices and IMP-TAM, VERB and MARMAX electron flux models. The parameter set should include solar wind density, velocity, and IMF magnitude and components.

Tony mentioned that he feels that is possible to modify AWSoM to allow faster execution

Currently AWSoM/SWIFT requires a 120 core computer to calculate in realtime. The cost of a dedicated computer would be of the order of 40,000 to buy the parts. Both Sheffield and Warwick have the expertise to build and maintain such a computer. It may turn out better value in the long run to 'buy dedicated nodes and disk pace' on the new Sheffield super computer as this would use dedicated services from Sheffield University for computer maintenance, backup, etc This would allow operation of the code and generation of forecast after PROGRESS has terminated.

Tony mentioned that he has funds to run the AWSoM/Swift during the extension period of the project.

It was suggested that Simon and Richard visit Warwick early October to discuss and determine the output format from AWSoM/SWIFT to the PROGRESS participants for use with their models.

Action: AI-PM5-1 SNW/RJB to organise visit.

WP 3

Peter sent a sort presentation about the current status of WP 3.

There have been further updates to the Dst and Kp models, previously reported in D3.4

The latest deliverable covering the generation of models for AE (D3.5) was submitted on time.



Task T3.6 is in progress. The Lund Kp and Dst models have already been implemented online. AE will follow soon. It is expected to be completed as specified in the current schedule.

WP 4

WP 4 has been completed.

WP 5

The work flow and distribution for Task 5.3 was discussed. The deliverable associated with this task is due in Month 37 to enable GFZ to allocate PM for this activity in 2018.

The current status of the tasks as follows FMI has sent output files generated by the IMP-TAM low energy electron model to GFZ. These files cover the period 15-20 March 2013. GFZ representative Nikita Aseev confirmed that he has inspected these data and determined that they are suitable for GFZ for their contribution to WP5 and that GFZ e- VERB simulation code. He also confirmed that he got everything what is needed from FMI as IMP-TAM output.

It is proposed to compare the results of this simulation with those generated by VNC of a number of storm time periods in order to validate the output of the coupled IMP-TAM/VERB model.

FMI will provide the output files in the agreed format in real time while running IMP-TAM online. Task 5.3 should develop the scripts needed to download the appropriate data sets to GFZ and use them to initialise and run continuous VERB based forecast. The results from VERB should then be downloaded to Sheffield for display and further analysis. These tasks should be performed by GFZ.

It is foreseen that Deliverable 5.3 will contain three sections covering

1. Description of IMP-TAM and its output, comparison with observations, written by FMI
2. Description of VERB and the method of coupling to the IMP-TAM output data sets, comparison to observations, written by GFZ
3. A description of VNC, used to validate the output results, written by USFD



At GFZ, this task will involve a number of people with different specialisations. A list of the tasks at GFZ and the person responsible for them needs to be identified within two weeks after the confirmation of the acceptance of the amendment 12.

Action: AI-PM5-2 NG to liaise with YS/NA about responsibilities

WP 6

Task 6.3 involves the development of two different coupling methods between the VERB numerical code and the Sheffield NARMAX models for electron fluxes at GEO.

The first coupling system involves the implementation of a variable outer boundary in L* for the VERB code such that this boundary represents GEO. This is possible within VERB but may not be the most efficient mechanism. An alternative mechanism may be to formalise the output of the VERB code using the flux predictions from the Sheffield NARMAX model.

The second coupling method maps flux forecasts based on the Sheffield NARMAX models to the current fixed output boundary used by verb. This method has already been implemented as part of the VNC model and is almost ready to be placed online.

WP 7

It was noted from the updated DoA that FMI has allocated 4PM to tasks within WP7 but is not explicitly mentioned within the task description. We should confirm with Andrej that FMI may use the PM to participate within Task 7.3.

Action: AI-PM5-3 SNW to confirm this with Andrej

AOB

None.

Next Meetings

Dates and venues TBA.