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EUHFORIA in the ESA Virtual Space Weather Modelling Centre

Stefaan Poedts
KU Leuven, CmPA, Mathematics, Leuven, Belgium (stefaan.poedts@kuleuven.be)

The goal of the ESA ITT project AO-1-8384-15-1-NB VSWMC-Part 2 is to further develop the Virtual Space Weather Modelling Centre (VSWMC), building on the Phase 1 prototype system and focusing on the interaction with the ESA SSA SWE system. The objective and scopes of this project include:
1. The efficient integration of new models and new model couplings, including a first demonstration of an end-to-end simulation capability.
2. The further development and wider use of the coupling toolkit and the front-end GUI which will be designed to be accessible via the SWE Portal.
3. Availability of more accessible input and output data on the system and development of integrated visualization tool modules.
The consortium that took up this challenge involves: 1) the Katholieke Universiteit Leuven (Prime Contractor, coordinator: Prof. S. Poedts); 2) the Belgian Institute for Space Aeronomy (BIRA-IASB); 3) the Royal Observatory of Belgium (ROB); 4) the Von Karman Institute (VKI); 5) DH Consultancy (DHC); 6) Space Applications Services (SAS); 7) British Antarctic Survey (BAS).

The VSWMC-Part 2 project started on 17 February 2016. At the time of the ESWW15 meeting, Phase 2 will be finished, which means that all models (EUHFORIA, CTIM, CTAN2, BAS-RBM, COOLFluiD, GUMICS, etc.) and model couplings will be installed and operational in the VSWMC. Hence, it will be demonstrated how easy the models can be run and how easy model couplings can be set up and used. For instance, EUHFORIA can be run and coupled to Gumics-4 and Geo-effects models (Kp-index, bow shock stand-off distance,...). Moreover, visualization tools are installed as models and can thus be coupled to the models to get directly plots and/or video's as output of a run.

The VSWMC system is being developed under ESA's Space Situational Awareness (SSA) Programme and is intended to become an operational system as part of the ESA SSA SWE system.