

# HELIOGate, A work-flow based portal for Heliophysics

Monday, 16 September 2013 09:00 (8h 30m)

## Description of Work

Classical Propagation Models such as SHEBA require users to define the values of several parameters to yield accurate results. Unfortunately the definition of such parameters is not always straightforward and forces the scientist to either manually mine external data sources or take wild guesses and validate the results. HELIOGate offers an entirely different approach where users are required to enter only generic ranges for parameters. The propagation model is then executed as a parameter sweep job and the results are validated at the end by querying event catalogues.

Unfortunately this approach still lacks in flexibility as users cannot personalize each of the steps and cannot share them with other members of the community. For this reason, a new version of the advanced propagation model is now developed that defines each step as a different workflow (so that users can define their own and share them) and executes them as a meta-workflow, a workflow of workflows.

## Preferred Day if any (Demos - Mon, Tue, Wed)

Wed

## Printable Summary

HELIOGate offers to the Heliophysics community a workflow-based approach to perform repetitive and time-consuming tasks. HELIOGate's main functionality is an Advanced Propagation Model for Coronal Mass Ejection that reduces the dependency of its accuracy from the parameters guessed by users.

HELIOGate is developed within the SCI-BUS (<http://www.sci-bus.eu/>) project that relies on other FP7 funded initiatives. The recently finished HELIO project (<http://www.helio-vo.eu/>) has developed many of the services and some of the workflows that are being used by HELIOGate; HELIO has also developed the SHEBA propagation model that is at the heart of the HELIOGate propagation facility.

The workflows developed in the HELIO project were developed using TAVERNA and can be accessed through the HELIOGate portal by the means of the SHIWA Simulation Platform developed by the SHIWA Project. TAVERNA workflows are ported in the SHIWA Simulation Platform by the ER-FLOW project.

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**Session Classification:** Posters display