ER-flow Application Description Template

Application Name: Finding the origins of Solar Wind events at Earth

Application domain: Heliophysics

Brief application description (explain implemented function, inputs, outputs, usage)

This gives a comprehensive overview of high speed solar wind events (CME or CIR) seen at Eart, by obtaining the maximum in-situ measure velocity from the data evaluation service (DES), propagating the even backwards to Earth using the HELIO processing service (HPS) and SHEBA propagation model, and search whether halo CMEs or CHs were observed on that time, and retrieves, besides all the previous information, a context solar wind plot (+/- 1 day) and a URL linking to a context movie for CMEs or map from the HELIO feature catalogue (HFC) for CHs.

Input data format

EventType String - Which kind of event you want to back propagate CME or CIR
TimeStart   String - Starting time of the event at Earth
TimeStop   String - Time when the event has stopped (at Earth)

output data format

SW_plot   Plot of Solar Wind parameters with +/- 1 day the range input
PM_plot   Png images from the SHEBA propagation model
VOtable_Sun VOTable from HFC or HEC with the results of the CHs or CMEs events catalogued.
Products_Sun URL for either features map from HFC, or CME movie from GSFC movie maker

    sample data: NA
    application   http://www.myexperiment.org/workflows/3301.html
    documentation http://www.myexperiment.org/workflows/3301.html
    publication   NA

Execution environment
DCI: NA
middleware: NA   workflow system: TAVERNA 2

Execution characteristics
    data size (per unit, typical number of units):
      input NA   temporary NA   output NA
    processing time (per unit): NA
    memory usage: NA   disk usage: NA

Target users
    Community, projects: number of users: 0-10
    http://www.myexperiment.org/groups/101.html

Usage scenario for workflow in ER-FLOW

Single Workflow for end user to be invoked either through the Shiwa Simulation Platform or through specific ASM.

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