

Extensions of the CDPP/Propagation tool to the case of comets, giant planet auroral emissions, and catalogues of solar wind disturbances

N. André(1), V. Génot (1), A. Rouillard (1), M. Bouchemit (1), S. Caussarieu (2), L. Beigbeder (2), J.-P. Toniutti (2), D. Popescu(2)

(1) IRAP, CNRS-UPS, 9 avenue du colonel Roche, 31028 Toulouse, France; (2) GFI Informatique, Toulouse, France (nicolas.andre@irap.omp.eu / Fax: +33-5-61-55-83-70)

Abstract

Under Horizon 2020, the Europlanet 2020 Research Infrastructure (EPN2020-RI, <http://www.europlanet-2020-ri.eu>) includes an entirely new Virtual Access Service, “Planetary Space Weather Services” (PSWS) that will extend the concepts of space weather and space situational awareness to other planets in our Solar System and in particular to spacecraft that voyage through it.

PSWS will provide at the end of 2017 12 services distributed over 4 different service domains – 1) Prediction, 2) Detection, 3) Modelling, 4) Alerts. *GFI Informatique* has extended the Propagation Tool available at CDPP (<http://propagationtool.cdpp.eu>) to the case of comets, giant planet auroral emissions, and catalogues of solar wind disturbances. The service provides new plug-ins including selection of comets as targets, visualization of their trajectories, projection onto solar maps, projection onto J-maps (maps of solar wind outflows obtained from the Heliospheric Imagers onboard STEREO spacecraft, in which multiple elongation profiles along a constant position angle are stacked in time, building an image in which radially propagating transients form curved tracks in the J-map; it will enable the user to use catalogue of solar wind disturbances in order to identify those that have impacted the planetary environments.

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