

System architecture enabling runs on request for a Transplanet model of magnetosphere-ionosphere coupling at Earth, Mars, and Jupiter

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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. These services include in particular a Transplanet model of magnetosphere-ionosphere coupling at Earth, Mars, and Jupiter that enable the users to made runs on request of the model, archive and/or connect the results of their simulation runs to various tools developed in the Virtual Observatory. The present paper will first describe the Transplanet model, and then present the system architecture developed by the Space Plasma Physics Data Center (<http://www.cdpp.eu>) in France in order to make the service operational (<http://transplanet.irap.omp.eu>). Europlanet 2020 RI has received funding from the European Union’ s Horizon 2020 research and innovation programme under grant agreement No 654208.

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