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Interplanetary shock detection and impact at planets: a science case for CDPP tools

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Abstract

Using an automated algorithm for interplanetary shock detection (from the literature, Kruparova et al., 2013) the use of CDPP tools is illustrated. In this presentation a corresponding workflow will be shown : starting from AMDA (http://amda.cdpp.eu/), where the detection is performed and event lists produced, the pipeline proceeds to 3D visualization of in-situ data in solar wind / planetary context with the 3DView tool (http://3dview.cdpp.eu/). Finally the impact time of these shock events at planets is estimated using the newly developed Propagation tool (http://propagationtool.cdpp.eu/). The detection method will be applied to several interplanetary datasets including Wind, Stereo and Helios. Other complementary satellites data will eventually be used. The paper aims at showing how a consistent set of common space physics analysis can be performed and chained using free, online scientific tools. Some of the functionalities exposed here have been developed in the frame of the FP7 IMPEx project.