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A workflow based approach to Propagation Modelling in Heliophysics.

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A common scientific investigation in Heliophysics consists of modelling how events that originate on the Sun propagate throughout the Solar System. These models, called Propagation Models, pose several challenges that are the focus of this paper.

The models work from a set of boundary conditions determined from phenomena that occur on or near the solar surface and can also be limited by observations in other parts of the Solar System. The models themselves can in some cases require significant computing power and need to be run for a number of events to be able to determine how well the models are preforming. In order to facilitate the process of running the models we have developed a novel workflow-based solution to Advanced Propagation Model that will be described in the paper.

The work is based on several FP7 projects that include partners from many countries; these include the Heliophysics Integrated Observatory (HELIO), the SHIWA Simulation Platform, SCI-BUS and the ER-Flow support action.