Coupling the MULTI-VP model with EUHFORIA

Evangelia Samara\textsuperscript{1,2}, Jasmina Magdalenic\textsuperscript{1}, Rui F. Pinto\textsuperscript{3}, Veronika Jercic\textsuperscript{2}, Camilla Scolini\textsuperscript{2}, Luciano Rodriguez\textsuperscript{1}, and Stefaan Poedts\textsuperscript{2}

\textsuperscript{1}Royal Observatory of Belgium, Ringlaan 3, 1180 Brussels, Belgium
\textsuperscript{2}Centre for mathematical Plasma Astrophysics, KU Leuven, Celestijnenlaan 200b-box 2400, 3001 Leuven, Belgium
\textsuperscript{3}IRAP, Université de Toulouse, CNRS, UPS, CNES, 9 avenue Colonel Roche, BP 44346-31028, Toulouse Cedex 4A, France

The European Heliospheric FORecasting Information Asset (EUHFORIA) is a new 3D magnetohydrodynamic (MHD) space weather prediction tool (Pomoell and Poedts, 2018). EUHFORIA models solar wind and coronal mass ejections (CMEs) all the way from the Sun to 2 AU. It consists of two different domains; the coronal part, which extends from the solar surface to 0.1 AU and the heliospheric part, which covers the spatial domain from 0.1 AU onwards. For the reconstruction of the global solar corona, the empirical Wang-Sheeley-Arge (WSA, Arge, 2003) model is currently used, in combination with the potential field source surface (PFSS) model and the Schatten current sheet (SCS) model, in order to reconstruct the magnetic field up to 0.1 AU and produce the plasma boundary conditions required by the 3D MHD heliospheric part to initiate. In the framework of the ongoing validation of the solar wind modeling with EUHFORIA, we implemented and tested a different coronal model, the so-called MULTI-VP model (Pinto and Rouillard, 2017). First results and comparisons of EUHFORIA modeled output at Earth produced by employing the WSA and MULTI-VP coronal models, will be presented.