



Validation of the background solar wind modeled by EUHFORIA

Jürgen Hinterreiter (1), Manuela Temmer (1), Christine Verbeke (2), Stefaan Poedts (2), Jens Pomoell (3), Jasmina Magdalenic (4), Camilla Scolini (2), Luciano Rodriguez (4), Emili Kilpua (3), and Eleanna Asvestari (3)
(1) University of Graz, Institute of Physics/IGAM, Austria (juergen.hinterreiter@uni-graz.at), (2) KU Leuven, CmPA, Mathematics, Leuven, Belgium, (3) University of Helsinki, Helsinki, Finland, (4) Royal Observatory of Belgium, Solar Physics, Brussels, Belgium

Nowadays, forecasting the arrival time and the geo-effectiveness of CMEs and the fast solar wind has become of increasing importance. For that reason, knowledge of the structure and propagation of the background solar wind is essential. The testing and validation of the performance of solar wind models is therefore important to assess their reliability and to further improve the models. This is done for the EUHFORIA (European Heliospheric FORecasting Information Asset) model within the CCSOM (Constraining CMEs and Shocks by Observations and Modelling throughout the inner heliosphere) project [<http://sidc.be/ccsom/>].

We validate the modeled background solar wind by comparing the results to in-situ measurements, in order to make EUHFORIA ready for scientific exploitation and operational space weather purposes. For this several established test methods are applied on i) continuous variables of the solar wind plasma and magnetic field parameters (speed, density, pressure, Bz), and ii) binary variables based on specific events such as the arrival time and impact speed of solar wind high speed streams (HSS). We present first statistical results covering times of low (2008) and high (2012) solar activity.