

Development of real-time prediction system of CME arrival and magnetic field with ensemble SUSANOO-CME simulation 3

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The predictions of CME arrival to the Earth and the southward magnetic field brought by the CME flux ropes are one of crucial tasks for space weather forecast. We recently have developed a new prediction system of CME impact (arrival of CME and magnetic field) with MHD simulation SUSANOO-CME (Shiota & Kataoka 2016). In this system, based on automatically collected real-time observations, we can conduct ensemble MHD simulation of different set of 10 input parameters of each CME. However, we still need to study how we should select and disperse the input parameters to obtain better prediction of CME arrival and its impact.

The operation of the system started October 2021. Although the system has already been used for the predictions of arrival of several large CME events, it is still difficult to predict the arrival time accurately. In the presentation, we will show the actual prediction results and also discuss a new treatment to reduce the uncertainty due to background solar wind.

キーワード : CME、太陽風、宇宙天気予報

Keywords: CME, solar wind, space weather forecast