

Capacity of the FRi3D model of coronal mass ejections for usage in space weather forecasting

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Space weather forecasting in relation to coronal mass ejections (CMEs) requires prediction of both arrival time of a CME and its magnetic field configuration. Both of these parameters measured at a specific location of interplanetary space, for instance, near Earth, depend strongly on 3D shape and morphology of a given CME. FRi3D (Flux Rope in 3D) model provides a realistic description of CMEs and was shown to successfully reproduce remote observations of these complex structures as well as in-situ measurements of their magnetic field configuration. In this study, we go one step further and assess the forecasting capability of the FRi3D model in various usage scenarios. We report also the first preliminary results of integration of the FRi3D into MHD simulation code Euhforia.