

Measurements of coronal fields met by CME-driven shocks and determination of 3D CME kinematic

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The knowledge of coronal magnetic fields is of fundamental importance in order to understand the evolution of the main drivers of geomagnetic storms: solar wind and coronal mass ejections. Nevertheless, measurements of these fields are very difficult. Recently it has been shown that remote sensing UV and WL observations of shocks propagating into the corona and associated with major solar eruptions can be used to derive not only the strength, compression and deflection of coronal fields met by the shock, but also 2D maps of coronal field strength. The first part of this talk will summarize most recent results we obtained on these topics. Moreover, forecasting of geomagnetic storms also requires a good knowledge of the CME kinematic. Over the last 11 years it was shown that coronagraphic polarimetric observations of CMEs acquired by a single spacecraft can be used to infer the 3D direction of propagation of CMEs, using the polarization ratio technique. The second part of this talk will focus on this technique.

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