



## **Extreme Geoeffective events and their Solar Sources**

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Intense flares are responsible of geoeffective events with two different time scales. Some minutes after the flares high energy particles following the Parker spirals may hit the Earth atmosphere. They are commonly not enough dense to produce catastrophe. Only one to 10 events per year are dangerous. One day to five days after the flare, coronal mass ejections (CME) facing the Earth are considered to be a potential cause of the major geomagnetic storms. They are in average two CMEs per day so the risk is high, only some of them are geoeffective. To prevent major storms, it is important to understand what and where is the Solar Source, the transport of the coronal mass ejection through the interplanetary medium with the Solar Wind and its impact to the magnetosphere. The link between CMEs and geomagnetic events is obtained through in situ measurements (ACE, Wind satellites). The link between CMEs and solar sources by using imagers and coronagraphs (SOHO, STEREO, SDO). I will explore some extreme events to show all the problems in understanding the phenomena from one end to the other end.