



## **A Close Connection between Flares and Coronal Mass Ejections Revealed by the Reconnected Flux in the Solar Source Region**

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We report on a study of the properties of flares and coronal mass ejections (CMEs) associated with interplanetary CMEs (ICMEs) detected close to Earth. The study is based on a set of magnetic clouds (MCs) and non-cloud ejecta (EJ) originating very close to the solar disk. We computed the total reconnected flux in each of the associated solar eruptions and compared it with the CME, flare, and ICME properties. We find that the reconnection flux is closely related to the parameters describing the three phenomena. By fitting flux ropes to the coronagraph data, we show that the CME magnetic field in the corona is significantly higher than the ambient magnetic field. The radial dependence of the Flux-rope magnetic field is faster than that of the ambient magnetic field. This technique provides a simple method to predict the magnetic properties of ICMEs at various destination in the heliosphere.