MANIFESTATIONS AND TRIGGERING OF CORONAL MASS EJECTIONS AS OBSERVED IN THE EUV-UV EMISSIONS

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The availability of high-cadence and high-resolution images acquired from space in different EUV ranges from different past missions (e.g. Yohkoh, TRACE, SOHO, PROBA-2, Hinode, SDO, IRIS, etc.), in combination with other space- and ground-based data, provided a new view for the triggering and early evolution of Coronal Mass Ejections (CMEs). Many new information have been recently derived for instance on the early formation of CME flux ropes, of CME fronts and CME-driven shocks, and their relationships with other phenomena (e.g. EUV waves, post-CME current sheets, type-II bursts, SEP acceleration, etc...). Moreover, the availability of multi-view point observations allowed for the first time 3D reconstructions of many solar eruptions. Higher up in the extended corona, the early evolution of CMEs has been studied not only in the visible light, but also in the UV emission over more than 15 years (1996-2012) thanks to the UVCS (UV Coronagraph Spectrometer) instrument on-board SOHO. The UVCS captured the transit of hundreds of small- and large-scale solar eruptions (CMEs, jets, prominences). These observations (combined with data acquired by other instruments) allowed to characterize the early evolution of plasma embedded in solar eruptions, and to derive different plasma temperatures, elemental abundances, non-thermal broadenings, etc. in CME plasmas, information that cannot be derived with classical visible light coronagraphs. The next generation of multi-channel coronagraphs (such as Metis on-board Solar Orbiter or LST on-board ASO-S) will observe at the same time and same locations the Visible Light and the UV HI Lyman-α extended corona. These data will really provide a new view not only of solar eruptions, but also of the ambient solar wind in their early acceleration region. Future prospects will be summarized here.