M37a The eruptiveness of solar disappearing filaments and its relation to coronal arcades formations

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Many observations at the solar limb showed that CMEs are often associated with eruptions of Hα prominences. And CMEs, when directed to the earth, are known to cause geomagnetic storms. The observation of disparition brusques (DBs) of Hα filaments is, therefore, important not only to study the drive mechanisms of CMEs but also to forecast the geomagnetic storms. However, it is usually difficult to know whether a disappearing filament is eruptive or not, because the ordinary patrol observations in only Hα line center cannot provide enough information of velocities in the disappearing filament.

Using the Flare Monitoring Telescope at Hida Observatory which can observe simultaneously in both Hα line center and line wings, we analyzed Hα solar DB events. This study is new in the following points. 1) We classified these events into "eruptive" or "not-eruptive" by deriving 3-D velocity field of Hα disappearing filaments. 2) We examined the coronal responses, such as flares and coronal arcade formations, which were associated with Hα DB events, using *Yohkoh*/SXT data. 3) We analyzed a large number of samples (more than 40). The 3-D velocity fields were determined from measurement of transversal and line of sight velocity of filaments. Our method of getting line of sight velocity is based on Beckers' cloud model (Beckers 1966).

With these anlyses described above, we obtained the following results. 1) Most of "eruptive" events were followed by significant changes in coronal strucutre, while "not-eruptive" events showed less significant or no coronal changes. 2) Using temperature and emission measure analysis of *Yohkoh*/SXT data, we found that thermal energy release rate in enhanced coronal plasmas is greater in active region than in quiet region.