

M04a Hida/DST and SOHO/CDS observations of blinkers in the EUV and H alpha.

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In a recent article (Brooks et al. 2004 - ApJ, 602, in press), we reported the first detection of an H alpha counterpart to the EUV blinker in observations obtained by the Hida Observatory Domeless Solar Telescope and the SOHO/Coronal Diagnostic Spectrometer made in July 2002. The discovery suggests that blinkers can occur over a much wider temperature range than had previously been considered. It may also be important when considering the total energy released during blinkers and any relationship with coronal heating. In this paper we study a sample of EUV blinkers, during which simultaneous DST observations are available, in order to establish in what circumstances H alpha counterparts are observed. We discuss whether they are a common feature of blinkers. We also discuss whether they are confined to cooler temperature blinkers (pronounced in chromospheric lines) or by-products of the most energetic blinkers which register over a wider temperature range. In addition, we present some new statistical results on the EUV properties of blinkers. For example, we find strong positive correlations between the Doppler velocities observed in the chromosphere (He I) and transition region (O V), during blinkers, and also between the line widths in the two temperature domains. We discuss the importance of our results for understanding the physical mechanism causing blinkers.