M07a Characteristics of blinkers and brightenings in EUV and Hα observations

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We present the properties of short duration brightenings newly observed in a coordinated campaign between the Coronal Diagnostic Spectrometer (SOHO/CDS) and the Domeless Solar Telescope (DST) at Hida observatory. Blinkers are small brightening features observed in the EUV. Previous observations have shown that they have a typical lifetime of around 16 min., and occur in both quiet and active regions above areas of enhanced emission e.g. network boundaries in the quiet Sun. However, the relationship with other chromospheric and coronal phenomena is not yet fully understood and no Hα counter-part has yet been identified. Therefore, we observed both active and quiet regions in Hα and in EUV lines of He I, O V, and Mg IX to investigate the nature of blinkers in detail.

Using a narrow scanning field of view with SOHO/CDS (240×16 arcsec) we were able to obtain data with a cadence of 45 sec. This allowed us to study the evolution of the brightenings with high time resolution. Many short-lived brightenings are found particularly in the active region observations, and their duration of a few minutes is much shorter than the 16-19 minutes of previous observations of active region blinkers. We discuss the characteristics of these brightenings, their corresponding features in Hα and their relationship to previous observations of EUV blinkers and other brightenings.