M21a A study of a solar active region observed by the La Palma SVST

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We present preliminary results from an analysis of solar active region NOAA 8218 which was observed by the Swedish Vacuum Solar Telescope (SVST), situated in La Palma, on May 13th 1998. The observations cover a period of 3 hours and 50 minutes. Cotemporal images were made in the Ca II 3933Å K-line, the 4305Å G-band and H α (6356Å). Simultaneous magnetograms were obtained using the Fe I 6302Å line and these were supplemented with low resolution data from SOHO-MDI. Full-disk images from SOHO-EIT and Yohkoh-SXT, which partialy overlapped with the SVST observing period, were also examined.

Considerable activity is present in the La Palma dataset. The active region contains two large sunspots around which we have indentified some pore movements, an emerging flux region, numerous transient brightenings and a small two-ribbon flare.

Here we focus mainly on analysis of the flare, which occurs near the smaller of the two sunsposts at 14:43UT and lasts for around 20-25 minutes. We study the temporal evolution of the structure of the flare and the associated magnetic field. The Hα images show two dark structures which form an S-like shape immediately prior to the flare. The flare appears to occur during a period of attachment and then separation of these structures. The Fe I data has been examined to build up a picture of the mergence and reconfiguration of the associated magnetic field. Comparisons with the UV and X-ray data are also presented.