

White-Light Prominence

SOL2013-05-13T16

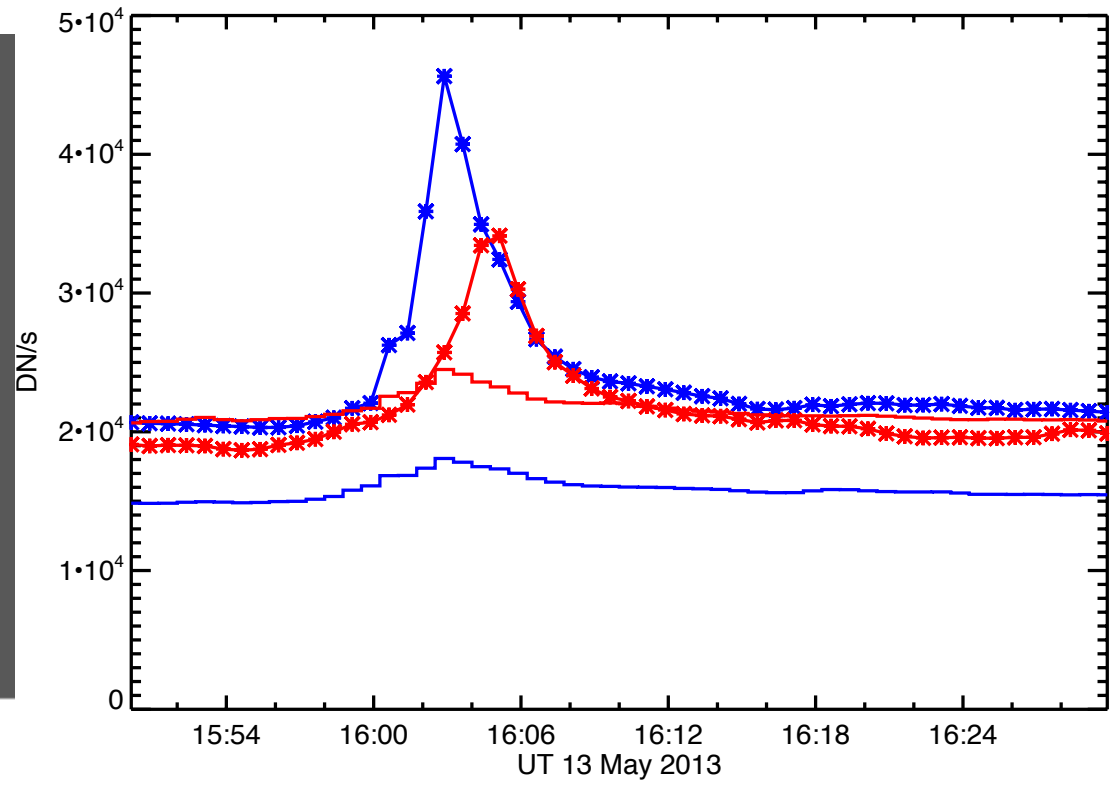
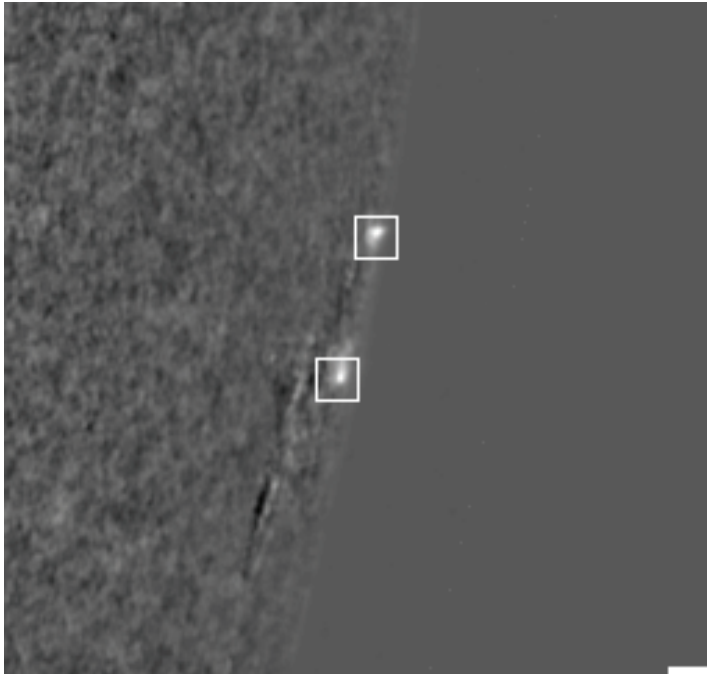
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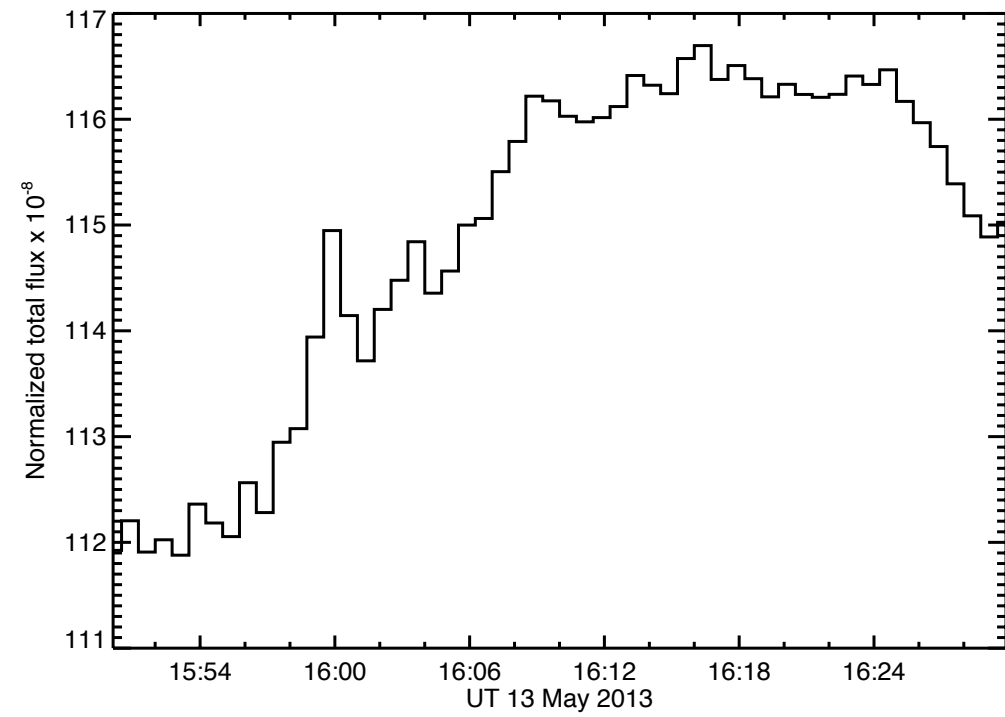
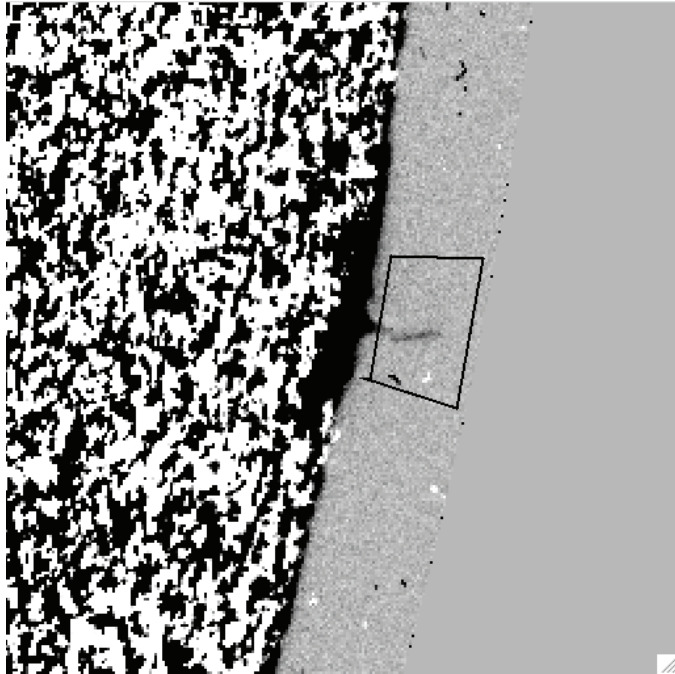
History and literature: There is not very much. A few “white-light prominences,” i.e. things that stick out above the photosphere and can be seen in the visible continuum, have been observed (about five cases known to me).

The most analysis has been done by Leibacher et al. (2004) in an unpublished AAS poster presentation for SOL2003-11-04.

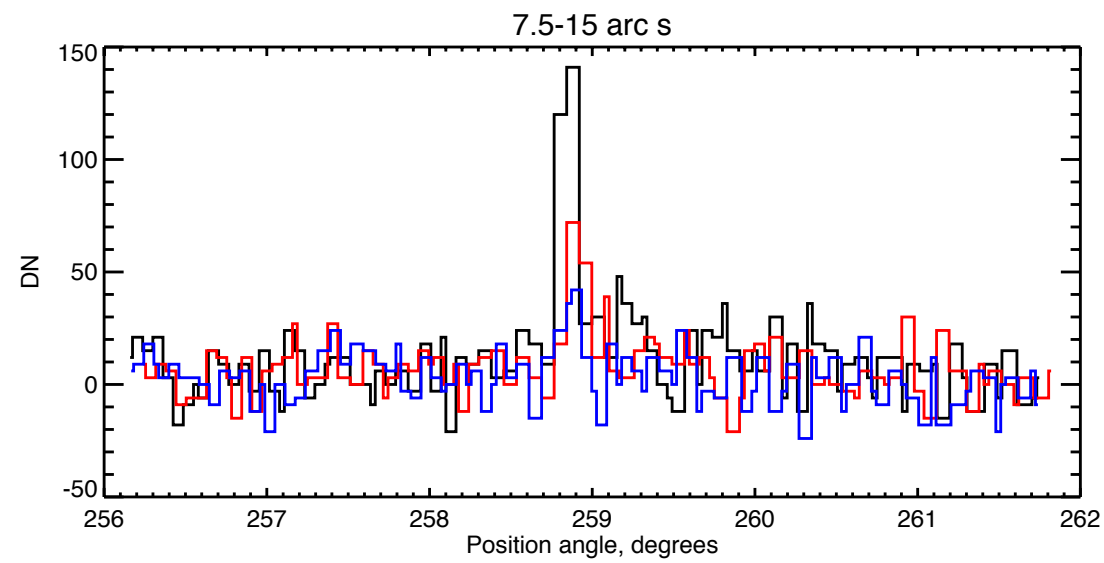
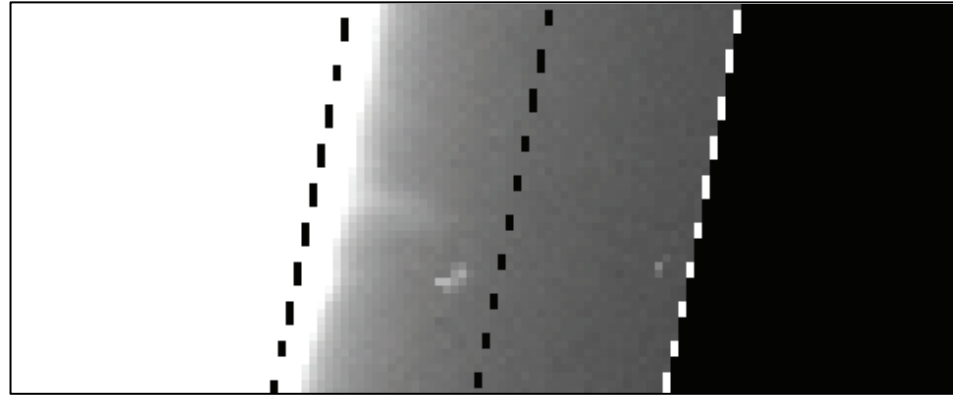
WLF



WLP



Flow measurement



Mass estimate

On the assumption that what HMI sees is Thomson-scattered photospheric light, the coronal flux F leads directly to an electron number via the Thomson cross-section $\sigma_T = 6.625 \times 10^{-25} \text{ cm}^2$.

$$N_e \approx (F_\odot / F) \times (2\pi A_\odot / \sigma_T)$$

First estimates put the total mass at a few $\times 10^{14}$ g. Could this then be a CMI rather than a CME? Do other CMEs get much mass from the photosphere as well?

Gravitational energy $> 10^{28}$ erg?