

CMEs, Flares, and associated Coronal Wave Phenomena

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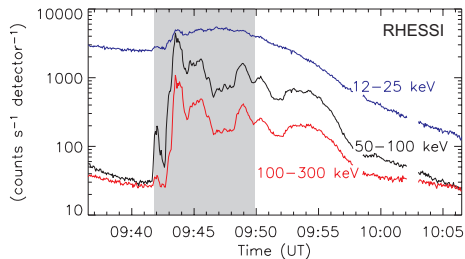
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Hinode Data Analysis Workshop
Orsay – November 13, 2007

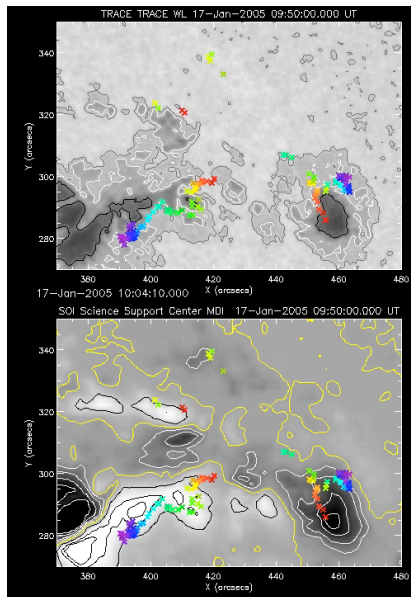
Research group members and collaborators

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Observational diagnostics of magnetic reconnection

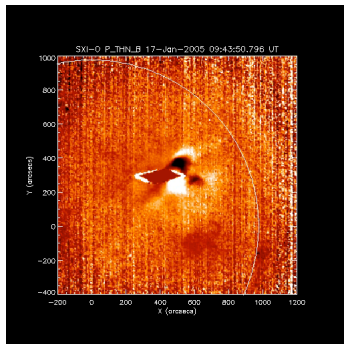
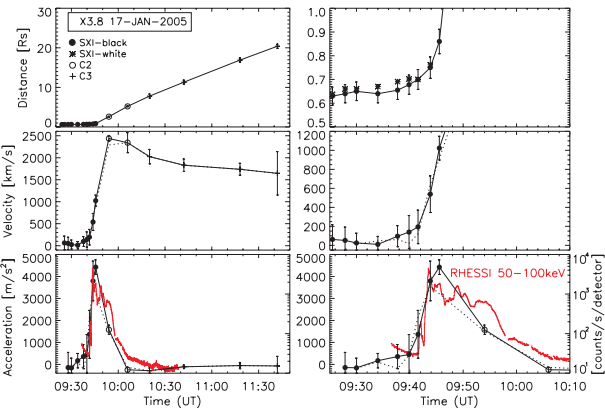


HXR footpoint motion along isogaussian field lines and the sunspot's inner umbra.



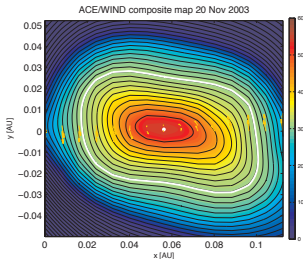
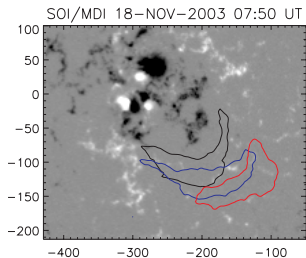
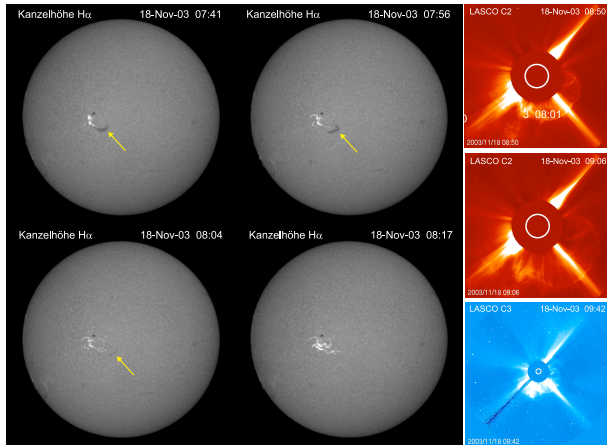
(Temmer et al. ApJ, 2007, **654**, p. 665)

Flare-CME relationship



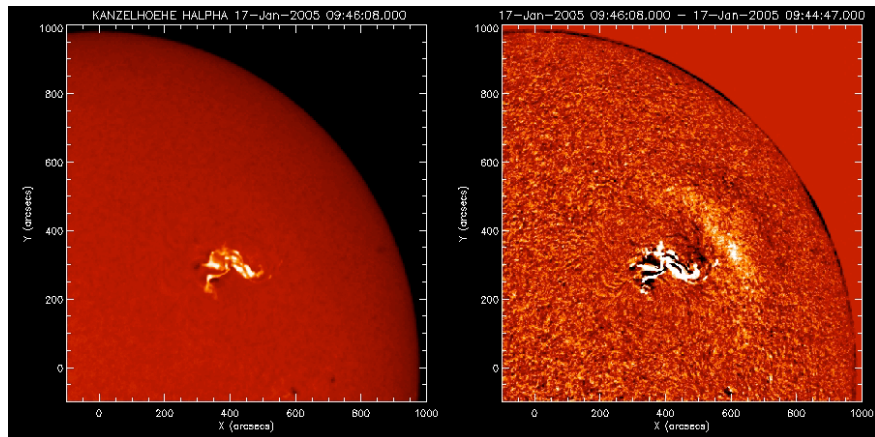
Synchronized CME acceleration phase and HXR bursts as measured for an halo-CME event.
(Temmer et al. ApJ, 2007, submitted)

Solar source regions of CMEs/ICMEs/MCs



Solar source parameters of a CME/ICME event and its comparison to the reconstructed *in situ* MC. (Möstl et al. Annales Geophys. 2008, submitted)

Associated wave phenomena



Kanzelhöhe H α off-band observations of a flare and an associated Moreton wave. (Veronig et al. ApJ, 2006, **647**, p. 1466)

Using Hinode observations

XRT

- magnetic reconnection processes (flares, microflares)
- global coronal waves
- solar sources of flares and related CMEs

SOT

- continuum - flaring process (white light flares)
- small scale structures of solar active regions
- high-resolution $H\alpha$ observations (?)

Data analyzes combined with TRACE, SoHO, RHESSI, STEREO, ground-based observations, ...

Movies can be found under:

<http://www.uni-graz.at/~temmerma/lit/Publications.html>