



# The Role of Magnetic Reconnection in the Long-Duration Acceleration and Expansion of Coronal Mass Ejections in the High Corona: Case Study of the 2013 February 27 Eruption

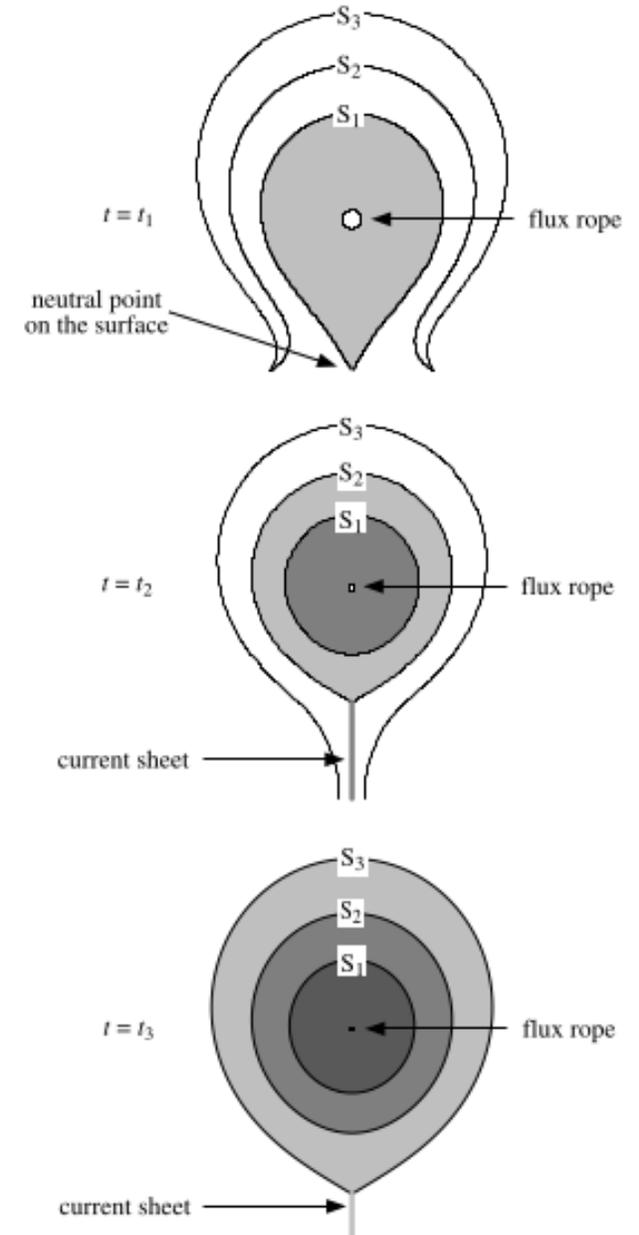
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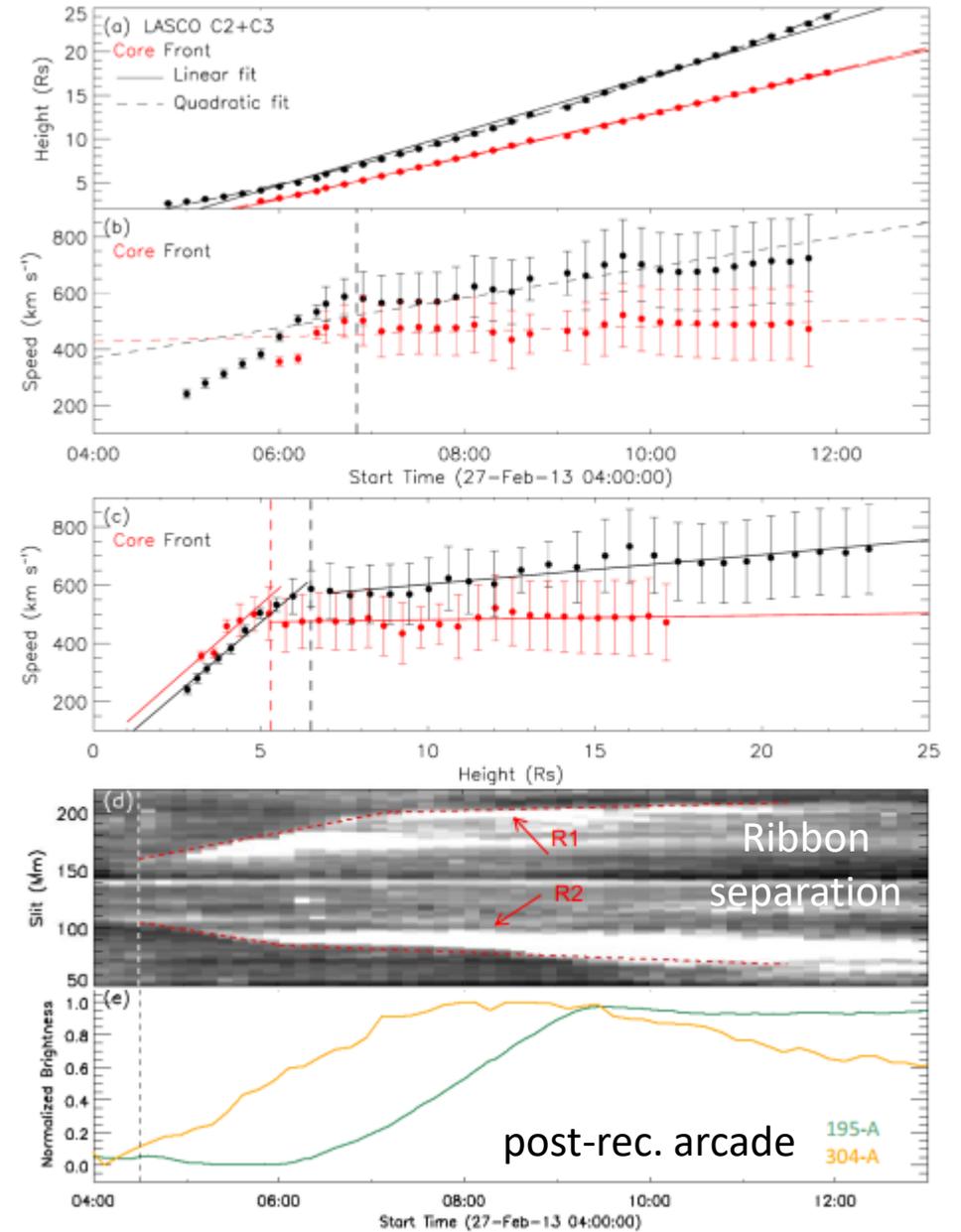
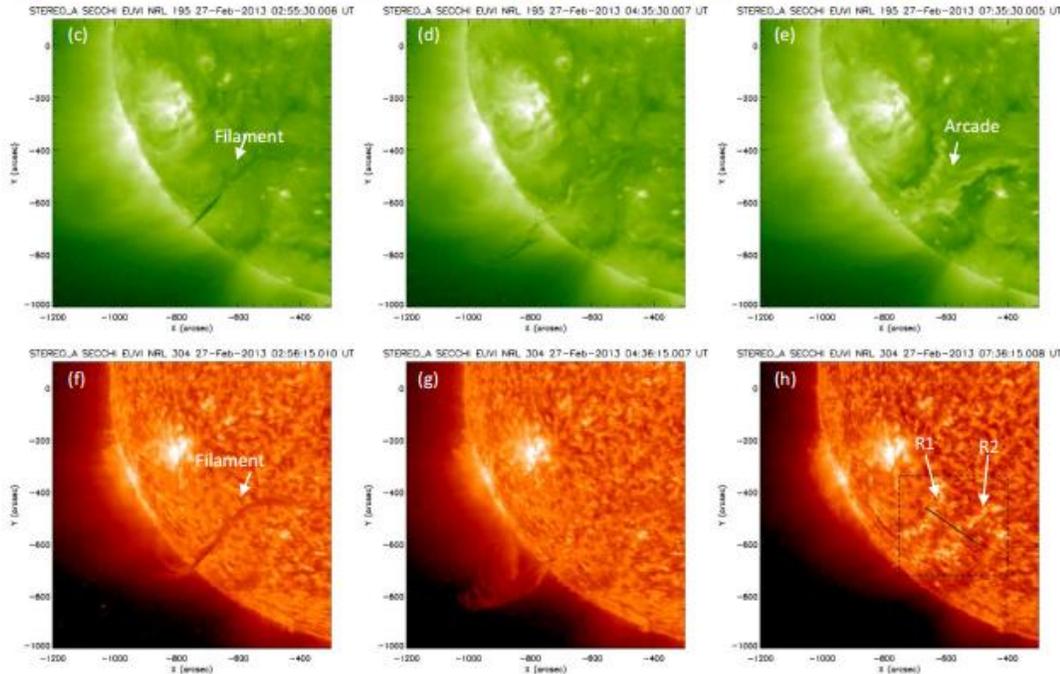
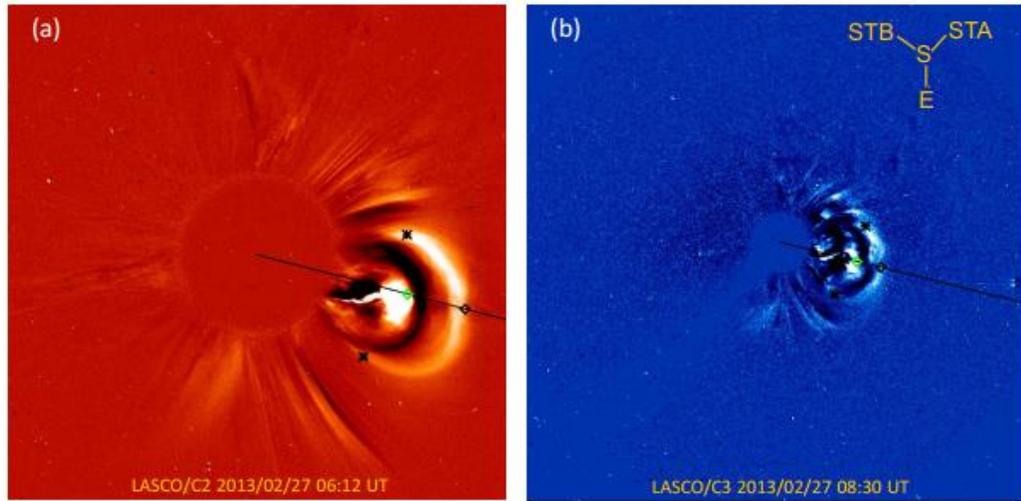
[3] University of Graz, Austria



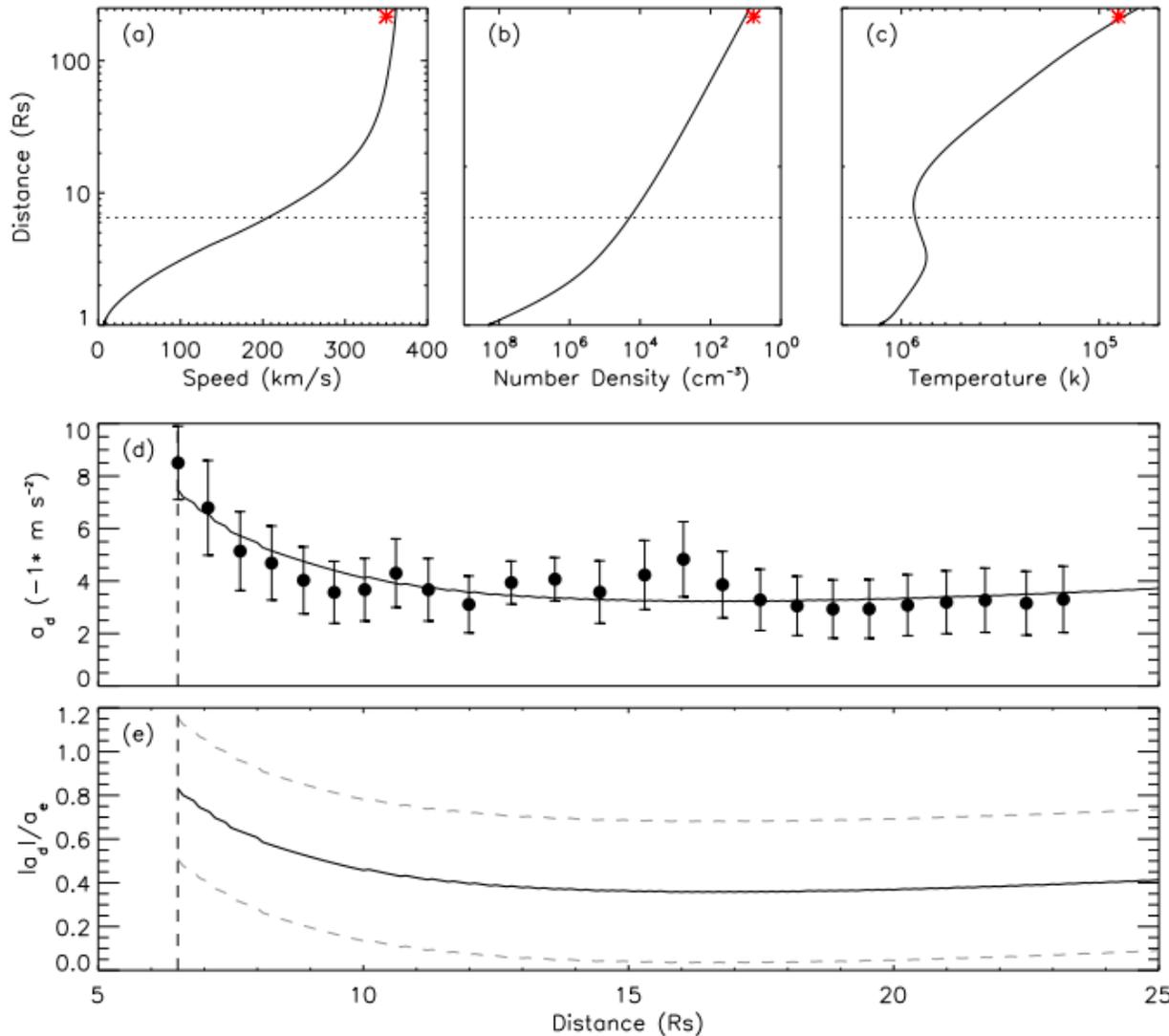
Lin et al. 2004

# Continuous Acceleration of a Moderately Fast CME in High Corona

On 2013 Feb. 27; ideally limb event in LASCO FOV



# Acceleration vs. Expansion by Magnetic Reconnection



- A moderately fast CME,  $\sim 700 \text{ km s}^{-1}$
- Long-duration acceleration of the CME in the high corona ( $10\text{-}25 R_\odot$ ), when it is faster than the background solar wind
- Apparent acceleration of the CME front may be due to CME expansion
- Long-duration magnetic reconnection signatures on the solar surface
- Contribution of magnetic reconnection to CME expansion is comparable to, or even larger than, that to CME acceleration.

*To be discussed:*

- *Structure of the CME bright core (Gibson et al. 2006; Howard et al. 2017; Veronig et al. 2018)*
- *Reconnection contribution to expansion and acceleration in the low solar corona*
- *How does reconnection influence CME dynamics when CME is at large distance?*

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Magnetic reconnection contributed to CME acceleration is estimated by the term of deceleration by solar wind drag force