

300 Seconds Above 160 Kilometers

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Outline



1. Motivation
2. MOSES-I
3. MOSES-II
4. ESIS
5. Conclusions



The Ultraviolet Sun



Observing From Space

- Atmosphere is opaque to EUV
 - In air (1 atm), EUV propagates about 0.01 mm
 - 50% transmission at 160 km altitude
- NASA Sounding Rocket Program
 - Suborbital
 - Inexpensive (1 % of a satellite)
 - Risk tolerance

Right: MOSES-I launch,
2006-Feb-08





MOSES-I Images





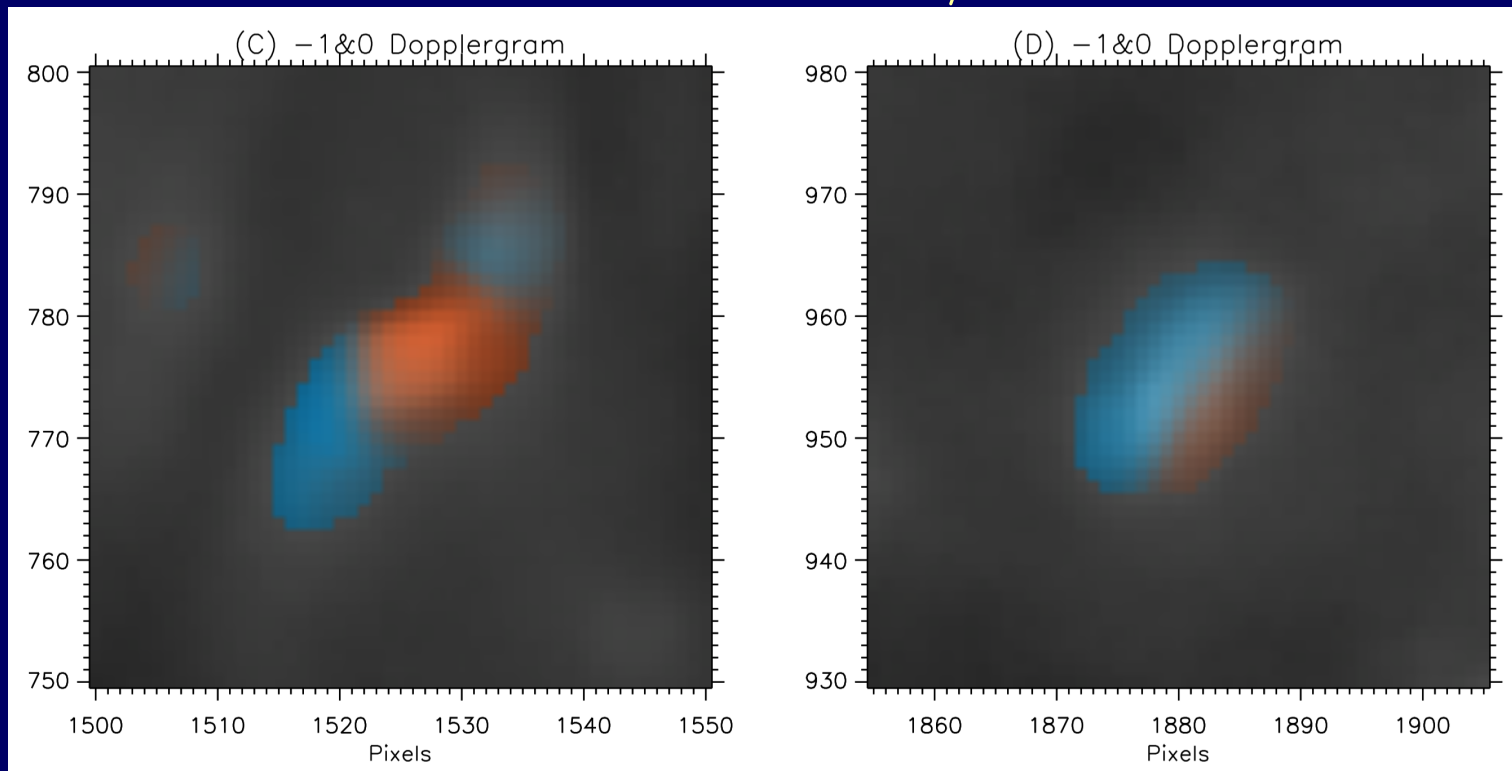
Explosive Event Observation



Fox, Kankelborg and Thomas (2010) *Astrophys. J.* 719:1132

MOSES-I Dopplergrams

Bright red and blue correspond to line of sight velocities around 50 km/s.



Courrier and Kankelborg, 2015 *Proc. SPIE* in press.



MOSES-II, 2015-Aug-27



MOSES-II, 2015-Aug-27

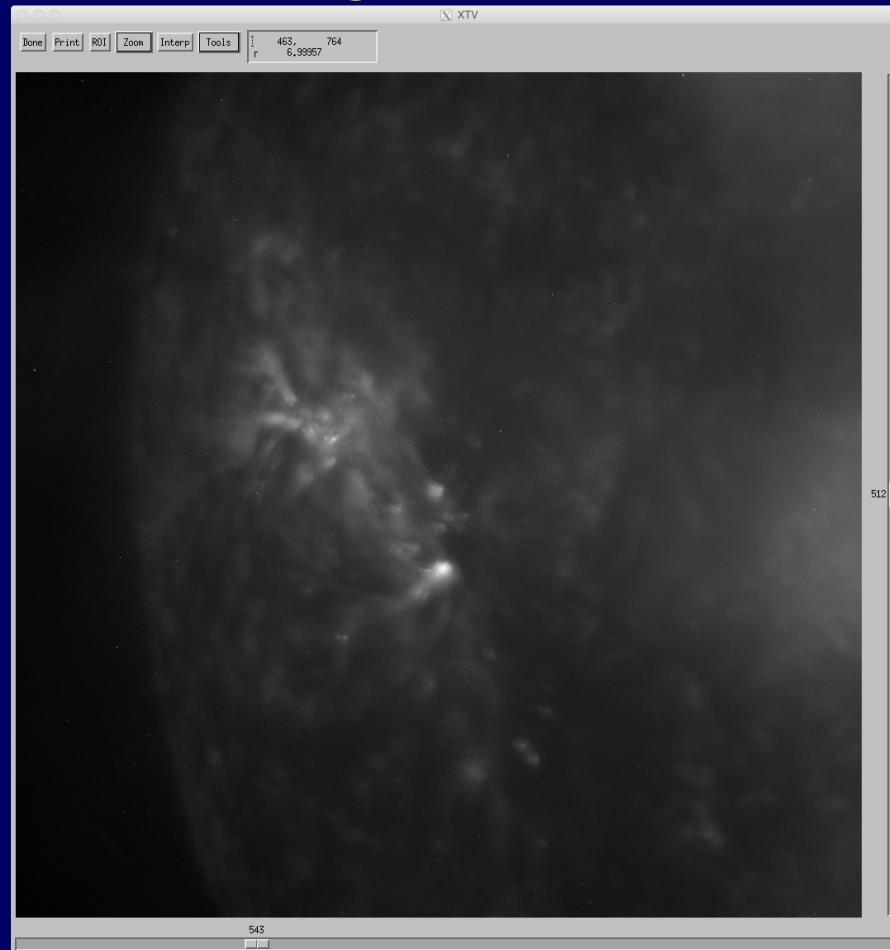




MOSES-II, 2015-Aug-27

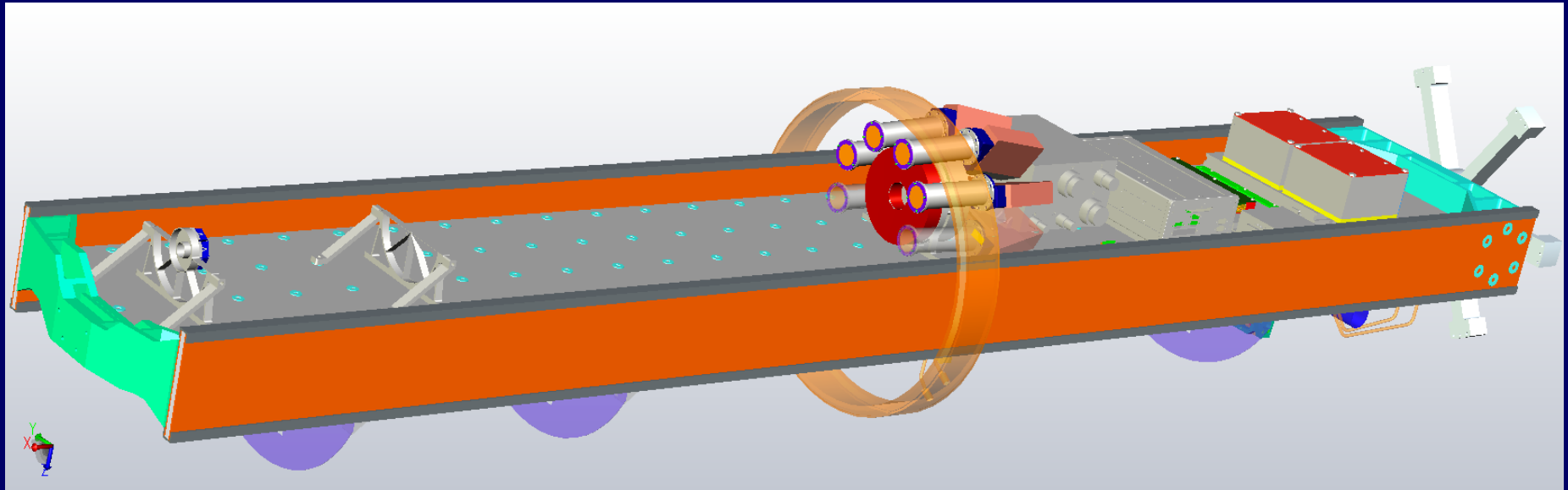


A solar active region in Ne VII, 46.5 nm.



Observations are rare in this temperature range (500,000 K).

EUV Snapshot Imaging Spectrometer (ESIS)



- New instrument design, pathfinder for satellite mission.
- Funded for flight in 2018.
- Now working on design, prototyping, and testing.