

CME assignment zero

ANSWERS

For the CMEs listed below, follow the CME analysis procedure described in the lesson and also submit answers to the following questions for each CME:

HW#0 CMEs starting at

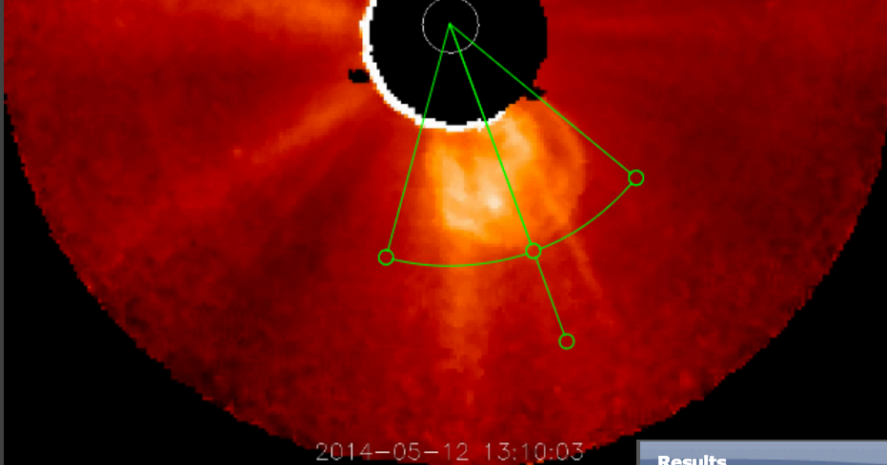
- 1) 2014-05-12T12:18Z
- 2) 2012-10-05T03:24Z
- 3) 2012-07-12T16:54Z
- 4) 2013-02-26T14:06Z

Resources & iSWA layouts

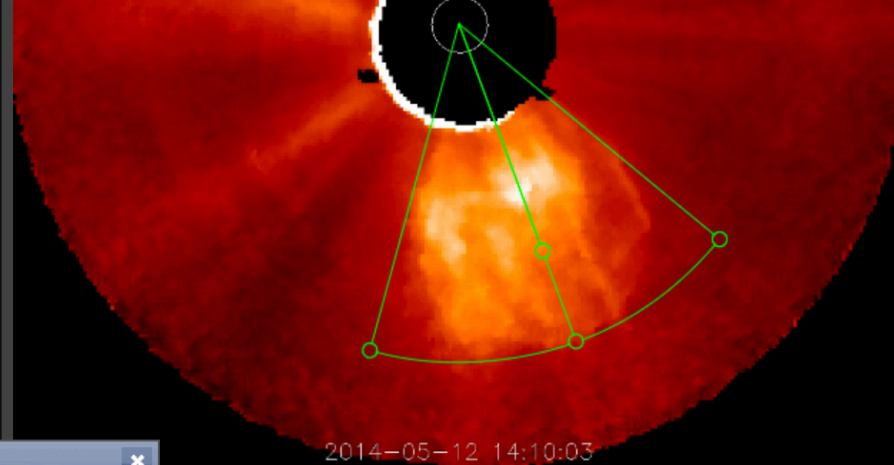
- * StereoCAT: <http://ccmc.gsfc.nasa.gov/analysis/stereo/>
- * 40 Frame coronagraph and EUV movies <http://go.nasa.gov/16bTvzK>
- * Where is STEREO? http://stereo-ssc.nascom.nasa.gov/cgi-bin/make_where.gif
- * <http://cdaw.gsfc.nasa.gov/movie/>
- * Solar Images with grid overlays <http://www.solarmonitor.org/>

Fill out the form:

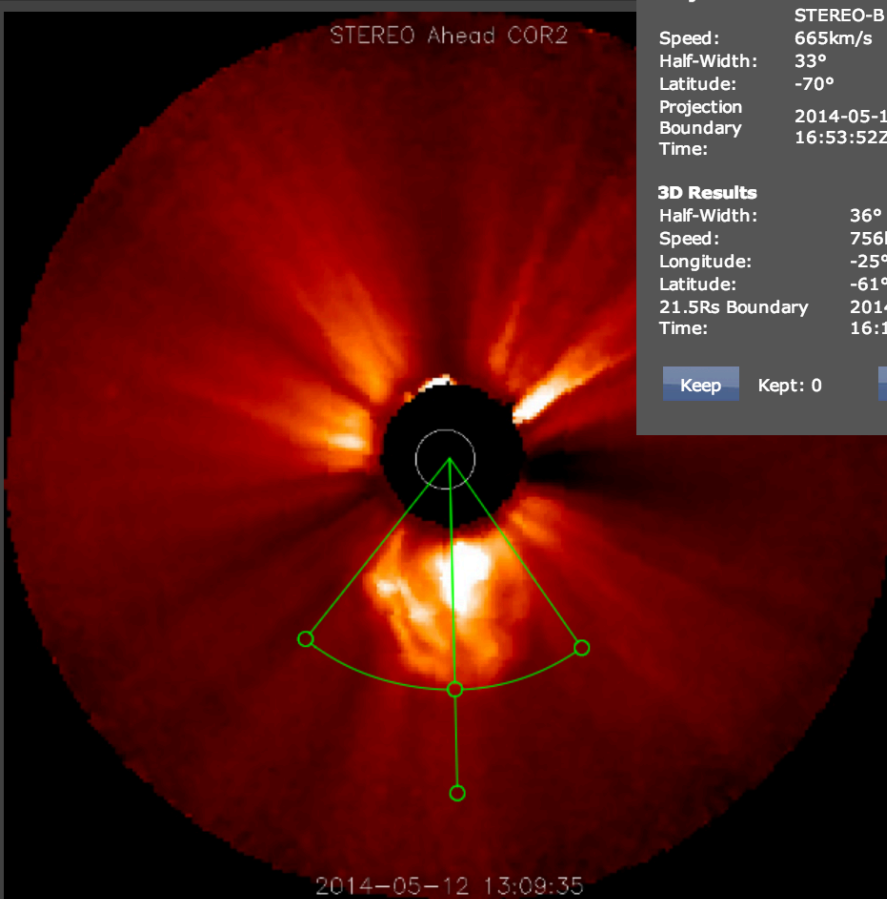
- a) What is the source location for this CME? (list the location e.g. N15E20, instrument/wavelength, and time of the observation).
- b) Describe the EUV lower coronal signature for this CME (e.g. flare, post eruption arcade/loops, rising loops, dimming, filament eruption).
- c) Is the CME a halo in any of the coronagraphs? If so, is it moving away from or towards the observer?
- d) Which coronagraph instrument first observed the CME at the start time?
- e) What are your final **CME parameters** (radial speed, half width, longitude, latitude, and time at 21.5 Rs (solar radii)).
- f) Submit your “Save URL” of your measurements.



STEREO-B COR2 Beacon 2014-05-12T13:09:35Z Lat: 1°, Lon: -165°, 21

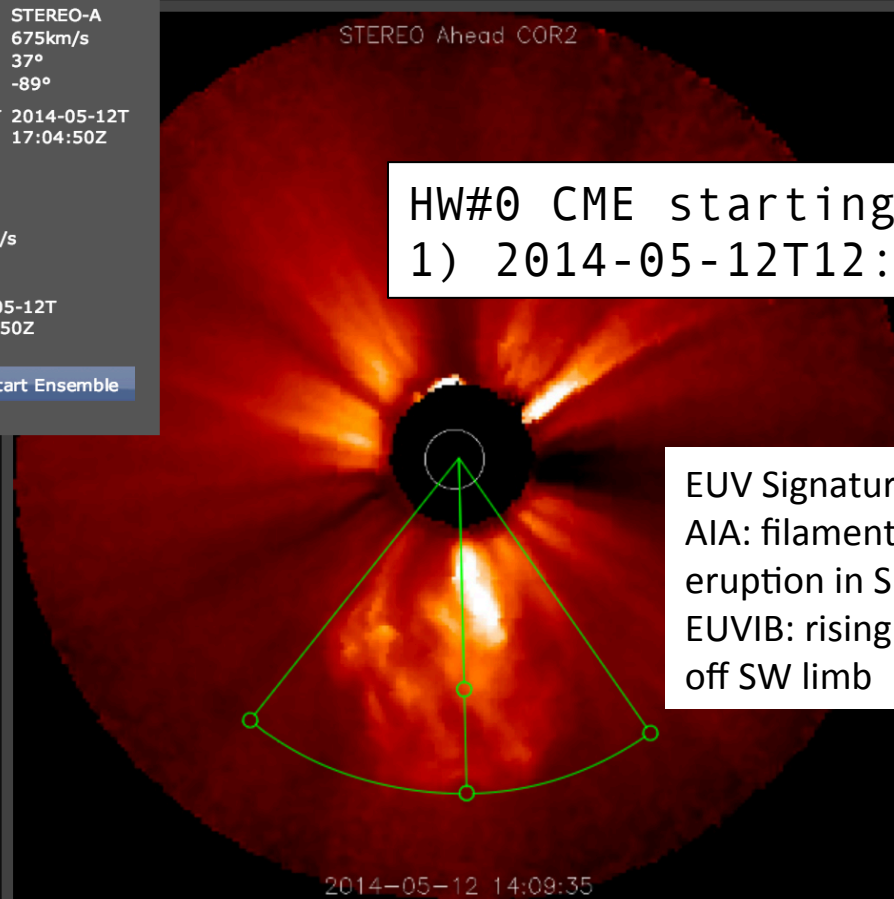


Beacon 2014-05-12T14:09:35Z



STEREO-A COR2 Beacon 2014-05-12T13:09:35Z Lat: 5°, Lon: 158°, 206.70Rs From Sun.

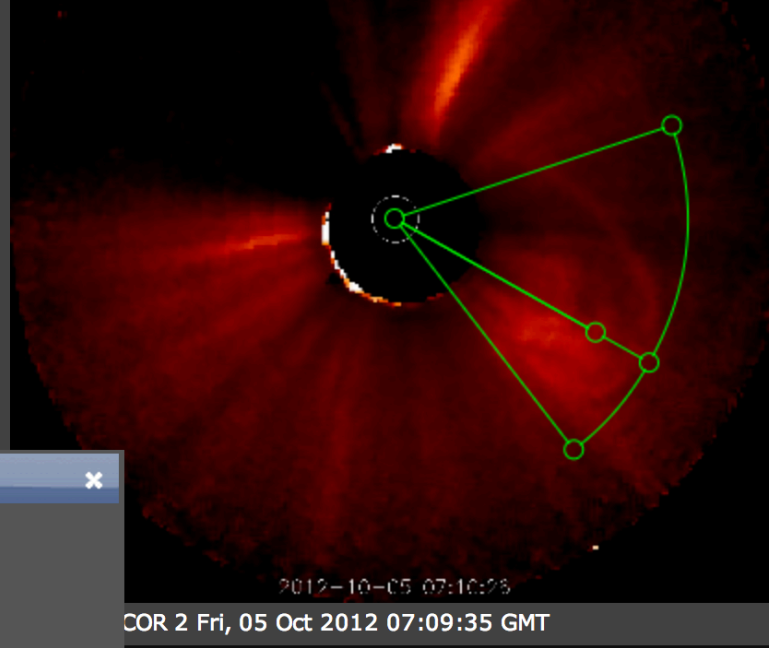
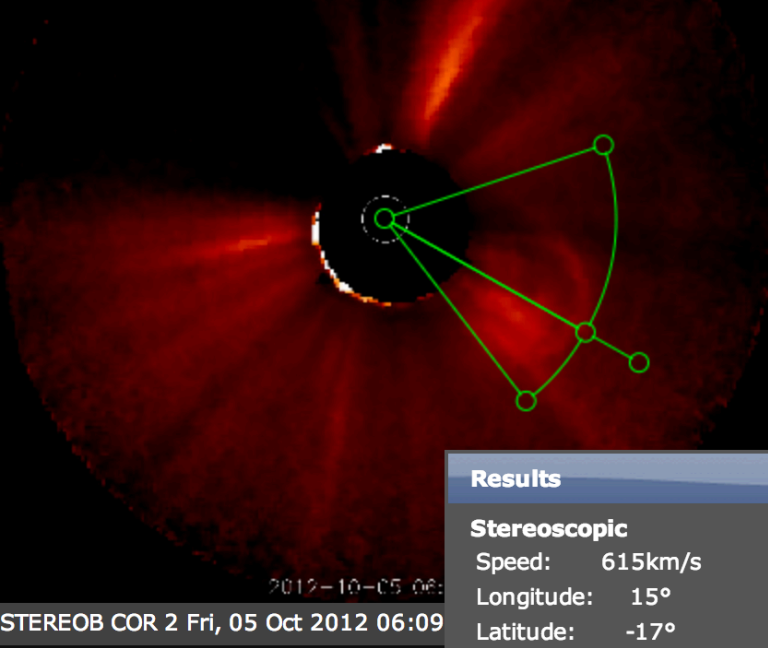
Results		
Projected Results		
	STEREO-B	STEREO-A
Speed:	665km/s	675km/s
Half-Width:	33°	37°
Latitude:	-70°	-89°
Projection	2014-05-12T	2014-05-12T
Boundary	16:53:52Z	17:04:50Z
Time:		
3D Results		
Half-Width:	36°	
Speed:	756km/s	
Longitude:	-25°	
Latitude:	-61°	
21.5Rs Boundary	2014-05-12T	
Time:	16:13:50Z	
<input type="button" value="Keep"/> Kept: 0 <input type="button" value="Start Ensemble"/>		



STEREO-A COR2 Beacon 2014-05-12T14:09:35Z

HW#0 CME starting at
1) 2014-05-12T12:18Z

EUV Signatures:
AIA: filament
eruption in SE.
EUVIB: rising loops
off SW limb



EUV Signatures:
AIA: slow dimming
south of disk
center, some
brightening post-
eruption. EUVI:
Slow rising loops
off of SE limb in A,
SW limb in B.

Results

Stereoscopic

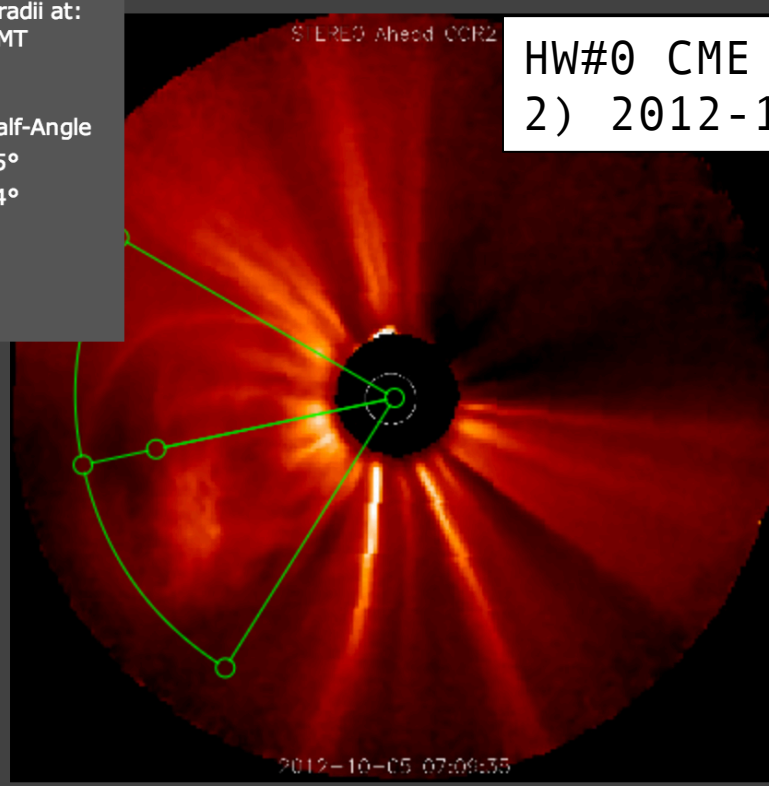
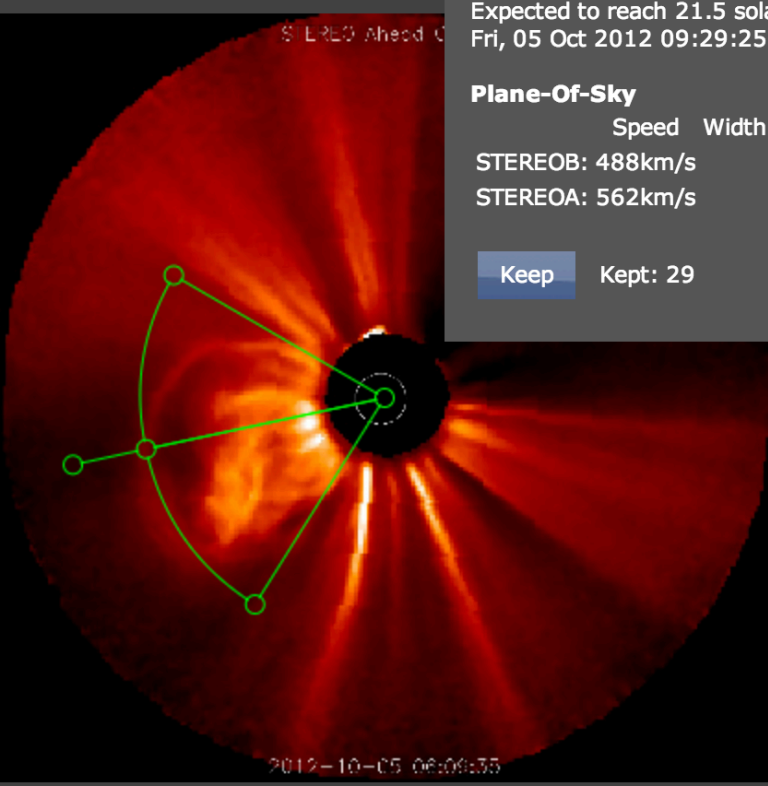
Speed: 615km/s
Longitude: 15°
Latitude: -17°
Expected to reach 21.5 solar radii at:
Fri, 05 Oct 2012 09:29:25 GMT

Plane-Of-Sky

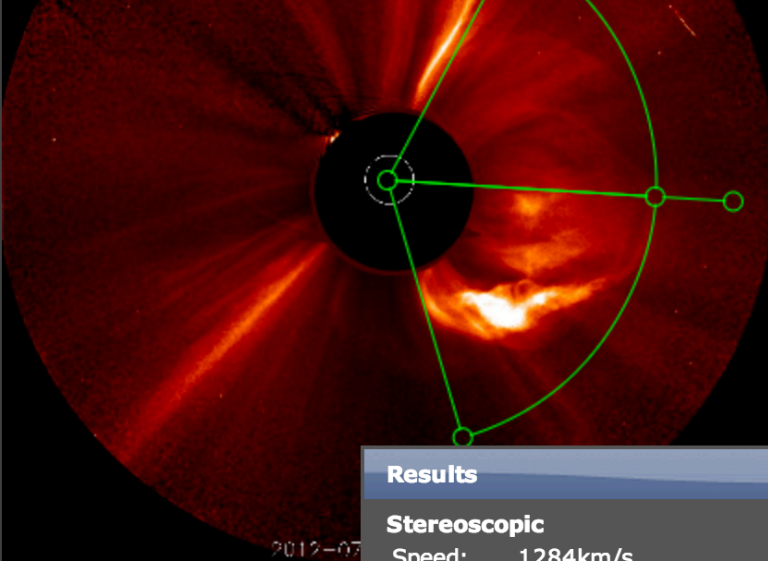
	Speed	Width	Half-Angle
STEREOB: 488km/s		35°	
STEREOA: 562km/s		44°	

Keep

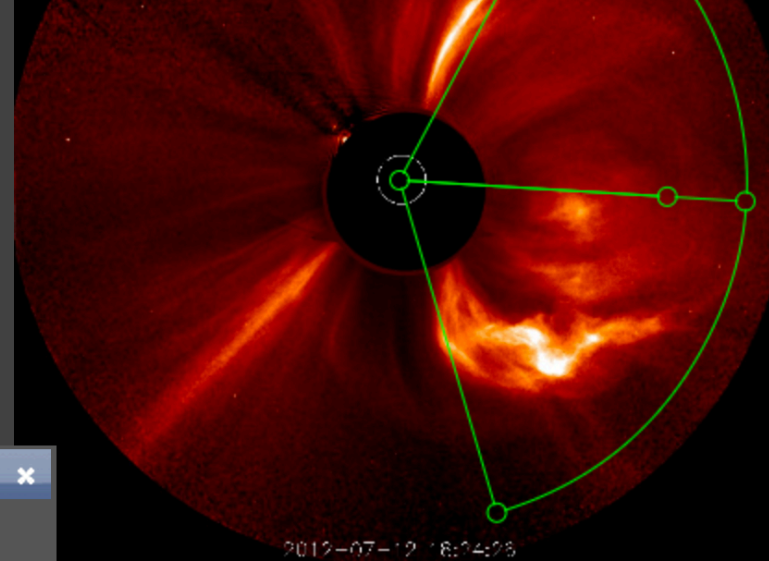
Kept: 29



HW#0 CME starting at
2) 2012-10-05T03:24Z



STEREOB COR 2 Thu, 12 Jul 2012 17:54:00 GMT



STEREOB COR 2 Thu, 12 Jul 2012 18:24:00 GMT

EUV Signatures:
AIA: Flare
brightening, slow
erupting loops
from below AR
south of disk
center.

Results

Stereoscopic

Speed: 1284km/s

Longitude: -9°

Latitude: -4°

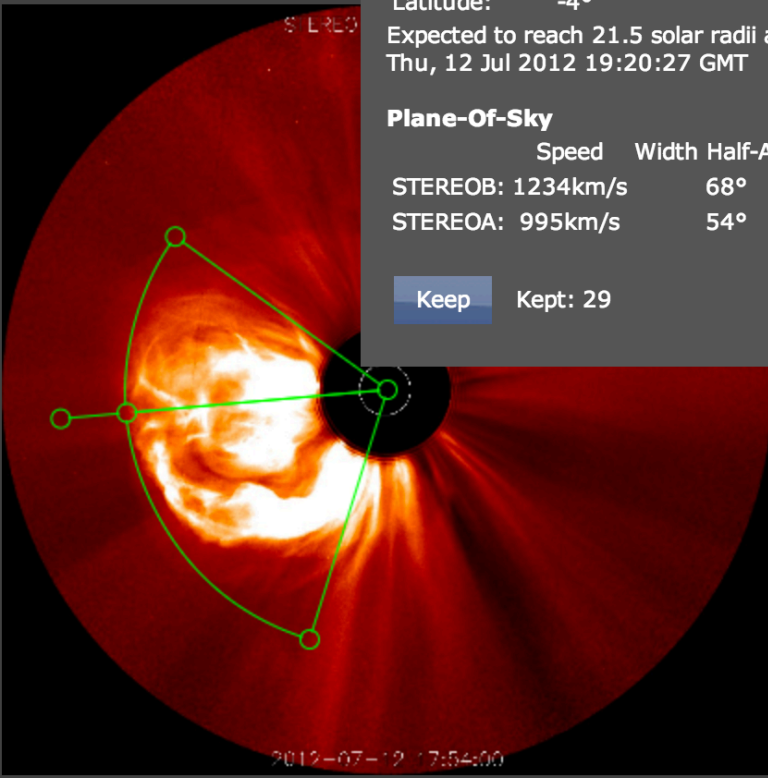
Expected to reach 21.5 solar radii at:
Thu, 12 Jul 2012 19:20:27 GMT

Plane-Of-Sky

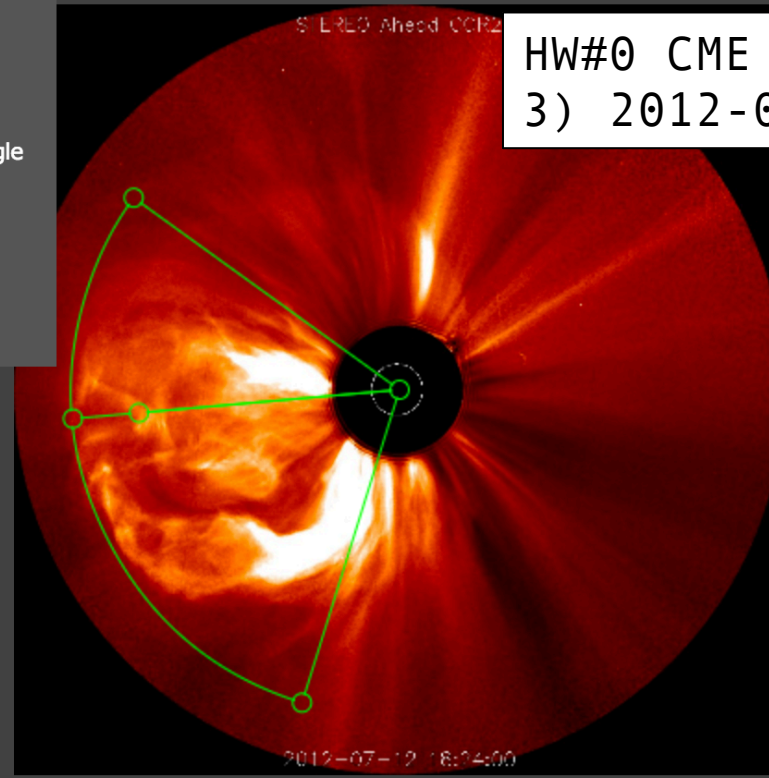
	Speed	Width Half-Angle
STEREOB:	1234km/s	68°
STEREOA:	995km/s	54°

Keep

Kept: 29

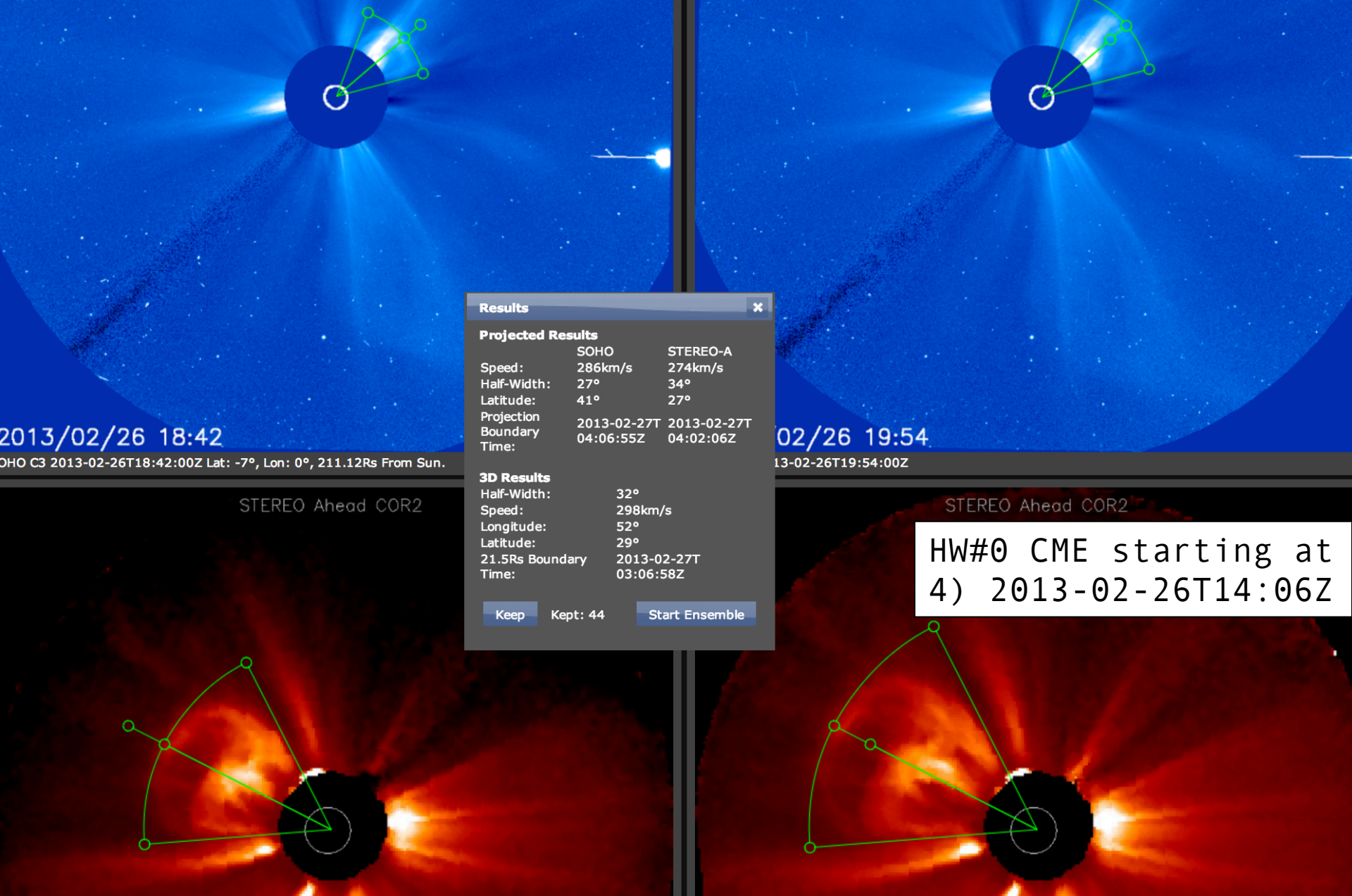


STEREOA COR 2 Thu, 12 Jul 2012 17:54:00 GMT



STEREOA COR 2 Thu, 12 Jul 2012 18:24:00 GMT

HW#0 CME starting at
3) 2012-07-12T16:54Z



EUV Signatures: AIA: dimming over a large area in the north, between two ARs.