



# **STFC Contribution to WP2: Manual Cataloguing of HI CMEs**

# Overview

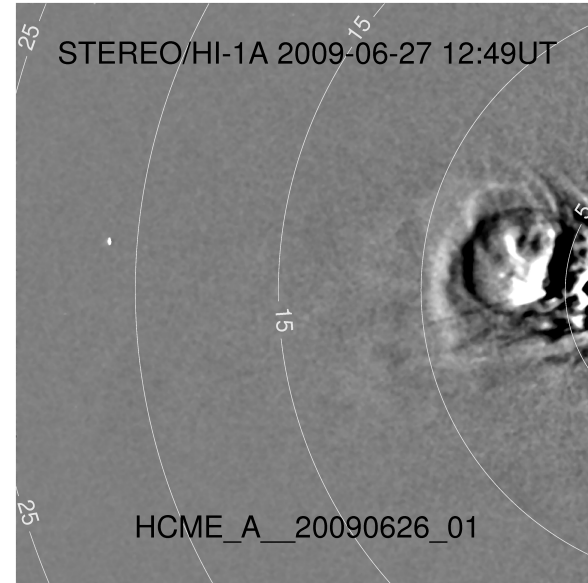
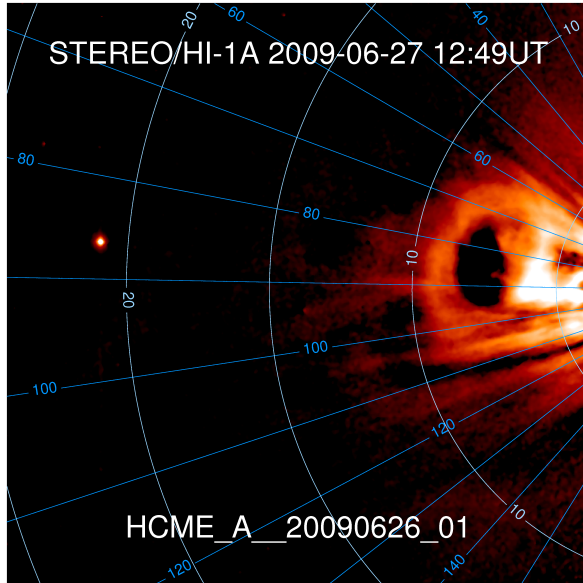
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- **Task 2.1: Manual cataloguing of STEREO/HI CMEs**
  - CMEs occurring since the beginning of the science phase (April 2007) of the mission are identified by manual inspection.
  - Basic observational parameters are included: position angle span and time of entry into HI-1 FOV.
  - This task is complete to the end of August 2014 and available on the HELCATS website.



# CME Identification

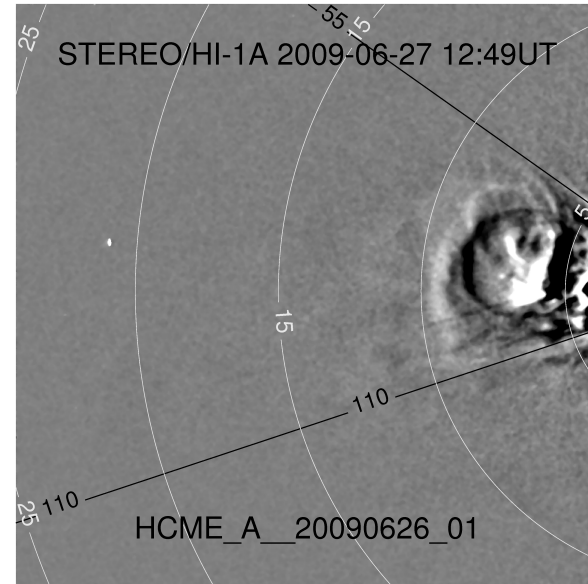
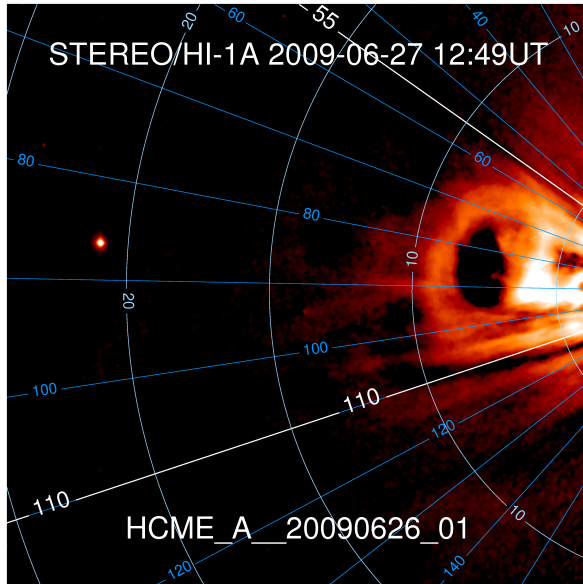
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1. CME is identified in HI-1 image.

# CME Identification

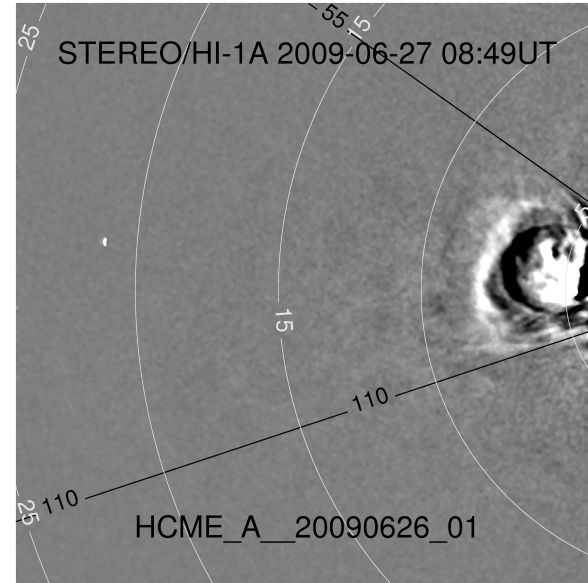
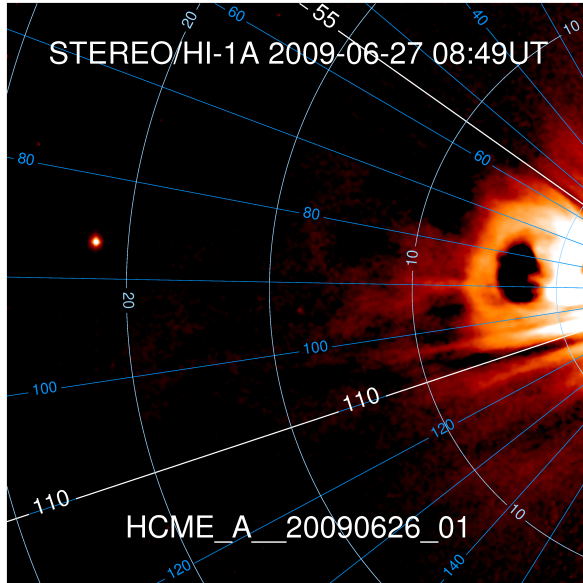
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1. CME is identified in HI-1 image.
2. Position angle limits are determined

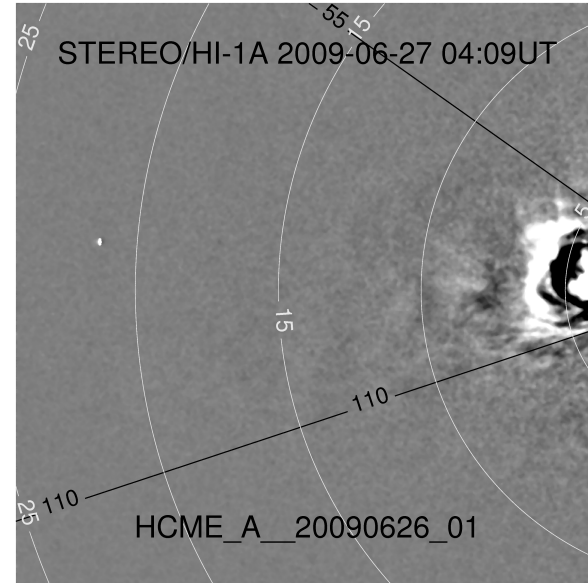
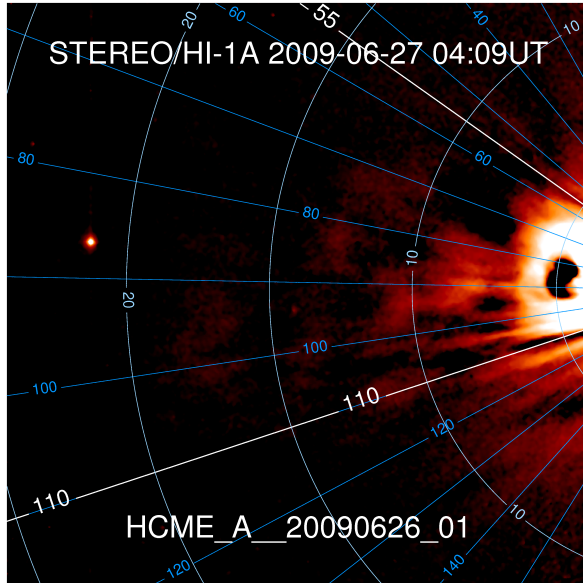
# CME Identification

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1. CME is identified in HI-1 image.
2. Position angle limits are determined

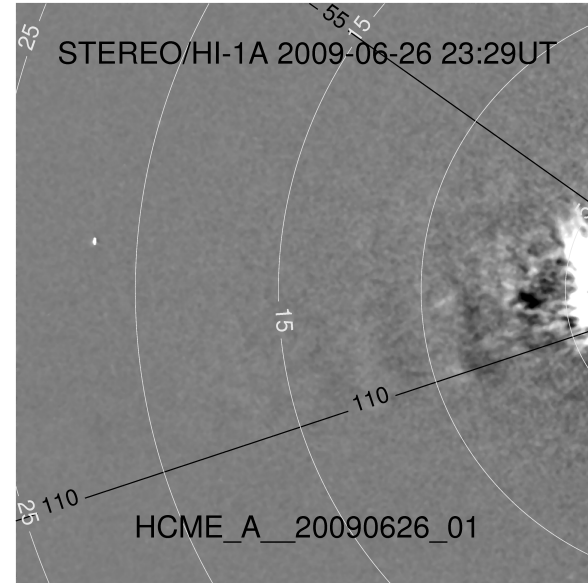
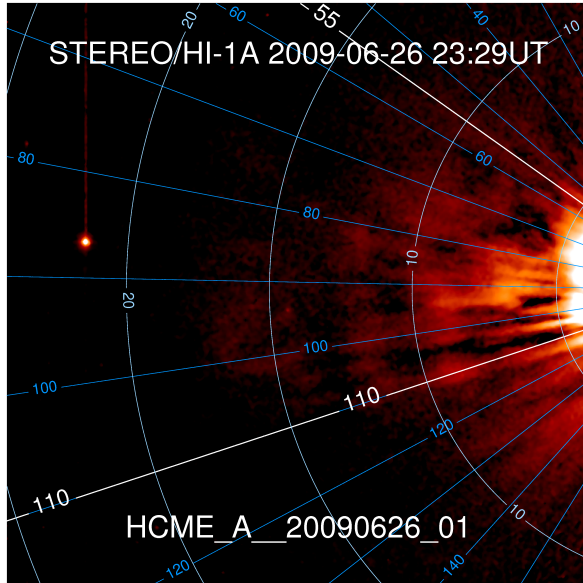
# CME Identification



1. CME is identified in HI-1 image.
2. Position angle limits are determined

# CME Identification

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1. CME is identified in HI-1 image.
2. Position angle limits are determined
3. Time of entry into FOV is recorded

# Catalogue Format

ID	Date [UTC]	SC	L:N	PA-N [deg]	L:S	PA-S [deg]	Quality
HCME_A__20090616_01	2009-06-16 12:49	A		65		115	fair
HCME_A__20090620_01	2009-06-20 14:49	A		55		90	fair
HCME_A__20090623_01	2009-06-23 13:29	A		80		120	good
HCME_A__20090626_01	2009-06-26 23:29	A		55		110	good
HCME_A__20090630_01	2009-06-30 23:29	A		55		145	fair
HCME_A__20090711_01	2009-07-11 02:49	A		80		105	fair
HCME_A__20090713_01	2009-07-13 20:49	A		90		120	fair
HCME_A__20090716_01	2009-07-16 04:49	A		80		110	fair
HCME_A__20090726_01	2009-07-26 12:09	A		55		105	good
HCME_A__20090731_01	2009-07-31 13:29	A		60		100	fair

Showing 101 to 110 of 1,350 entries (filtered from 1,673 total entries)

Select Save Print Previous 1 .. 10 11 12 .. 135 Next

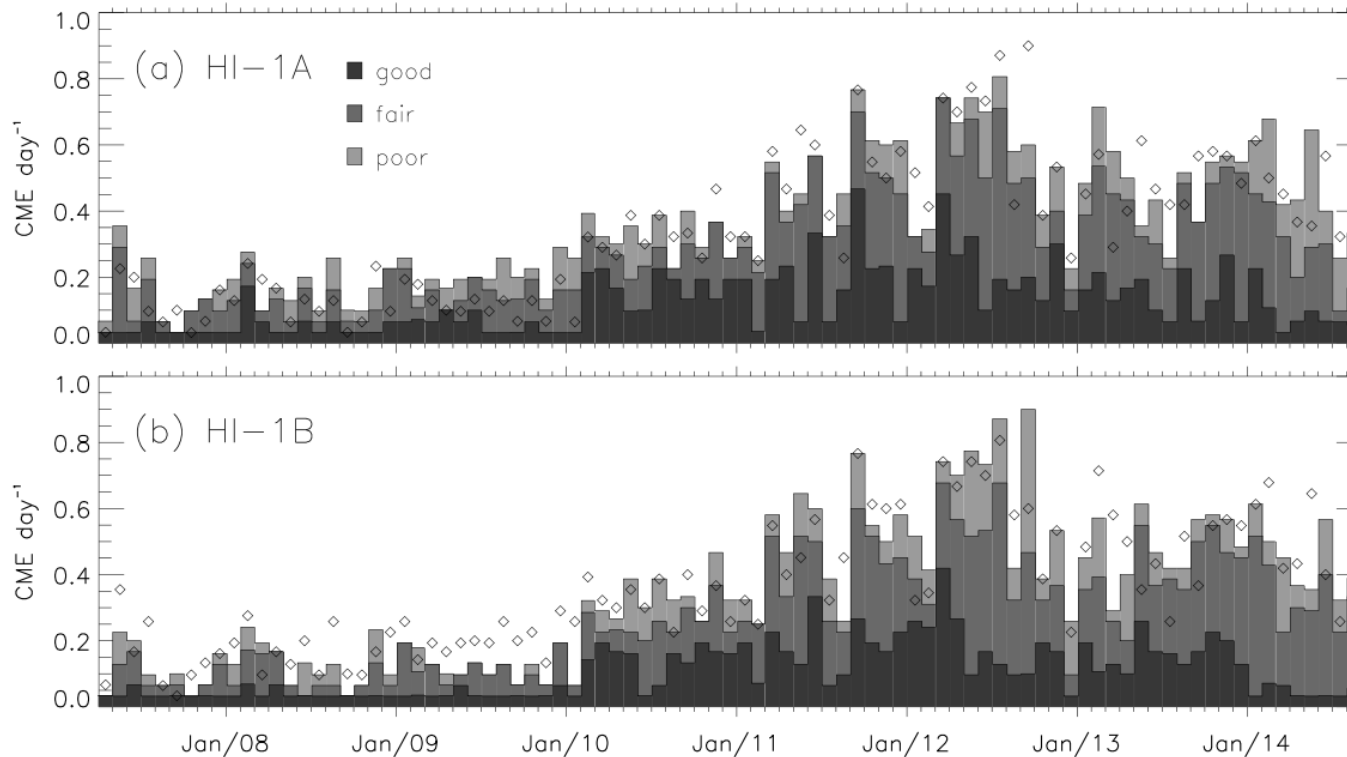
These parameters are now available on the HELCATS website  
(Products > WP2: CME Identification)

CMEs are given a **unique ID** and **quality flag** (poor, fair, good)





# CME frequency

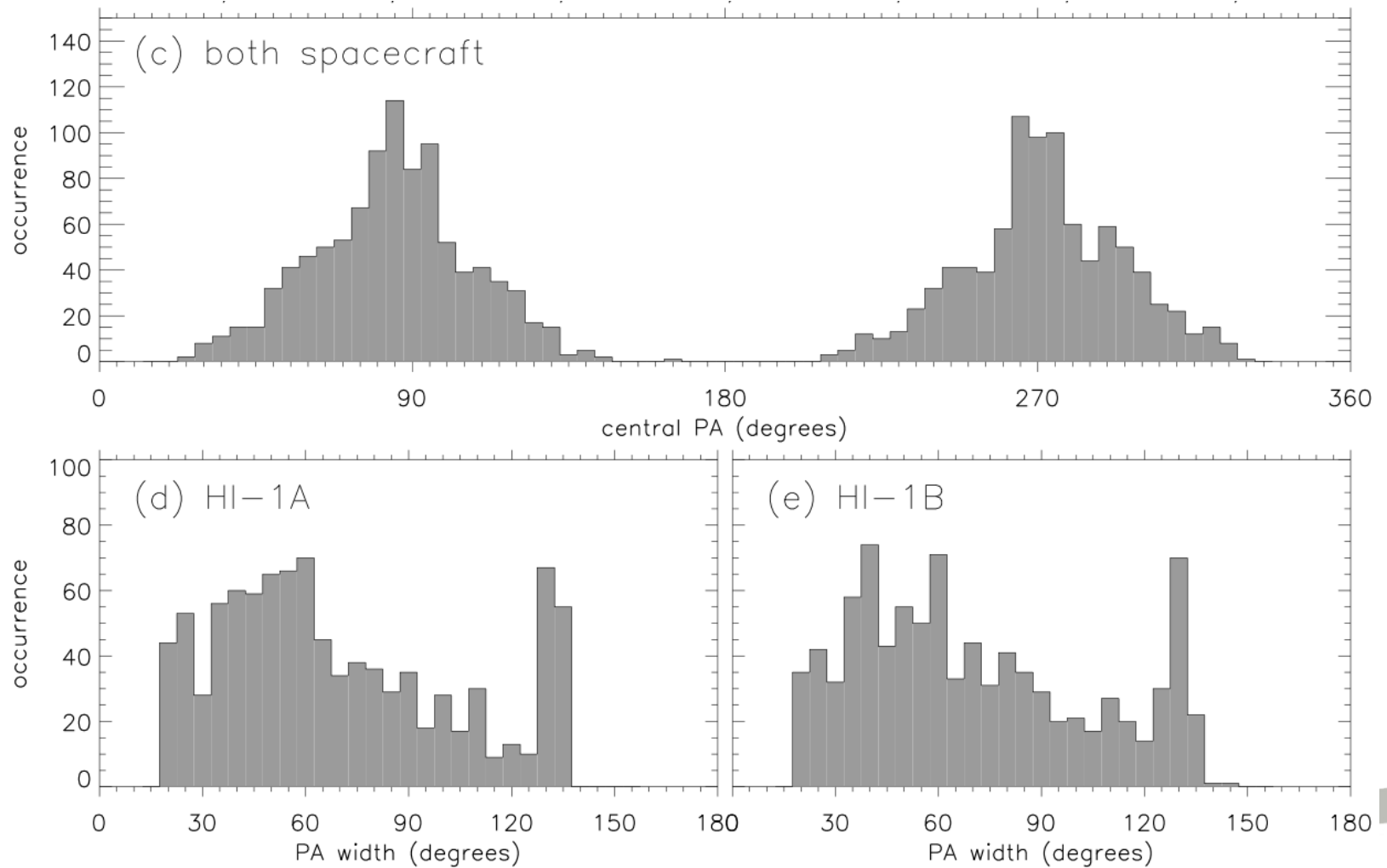


**Ahead: 965 CMEs**

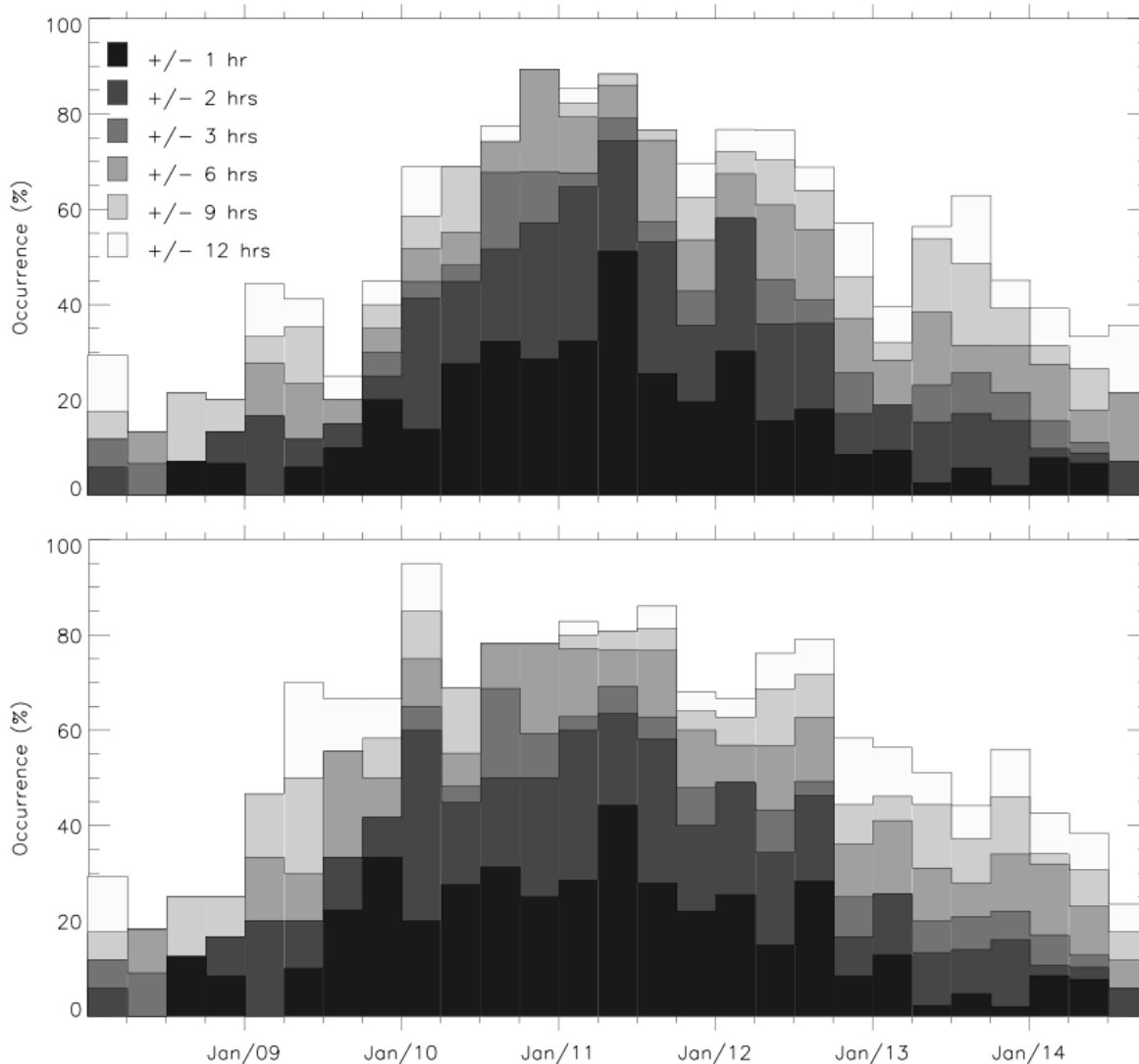
**Behind: 918 CMEs**

The catalogue is complete from beginning of science phase to beginning of reduced science operations (**April 2007 – August 2014**).

# CME position angle distribution



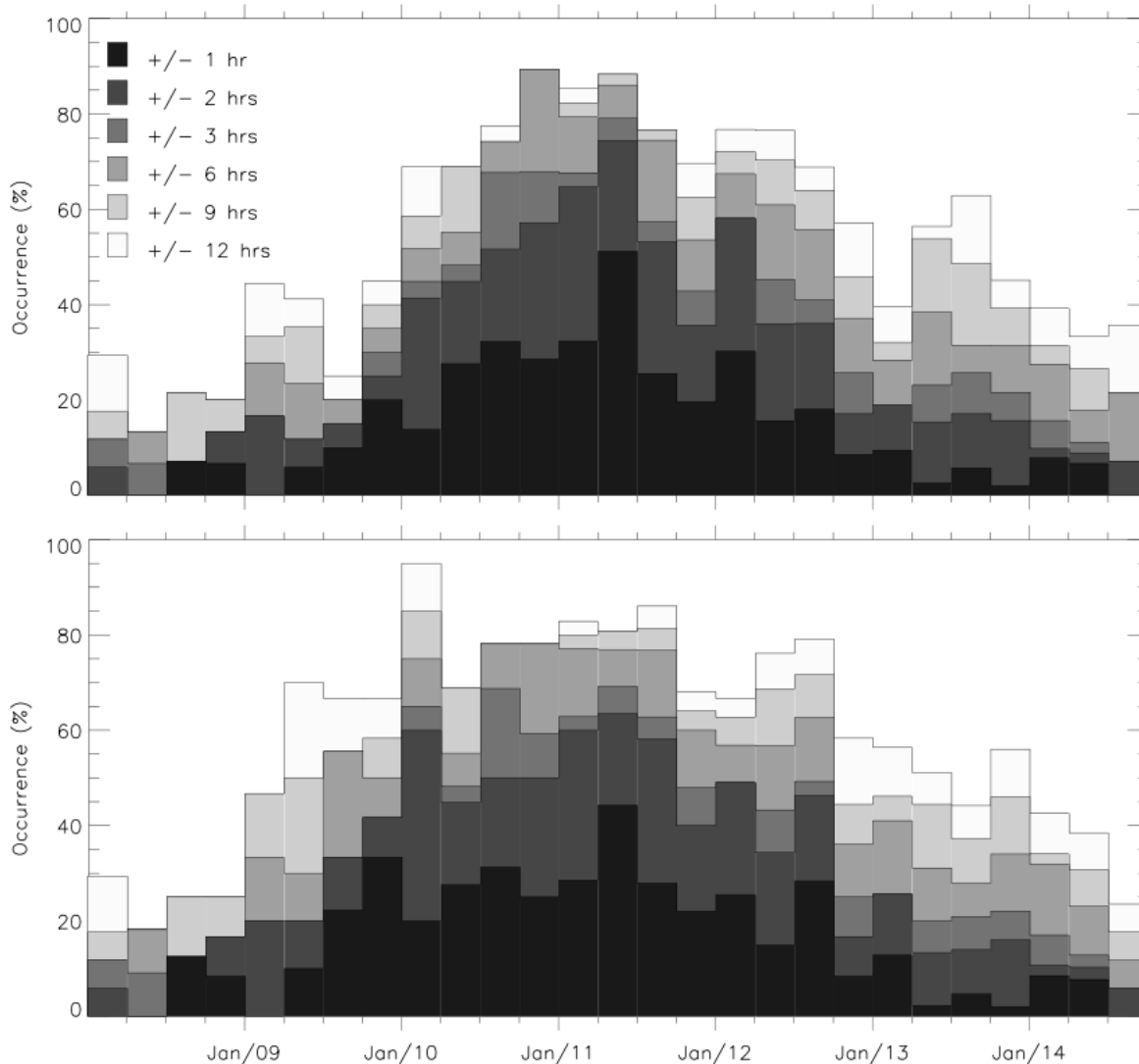
# Coincident CMEs



If a CME is observed by STEREO-A, do we see an event in STEREO-B?

Same plot, with the spacecraft reversed

# Coincident CMEs



If a CME is observed by STEREO-A, do we see an event in STEREO-B?

Same plot, with the spacecraft reversed

# Summary

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- **Task 2.1: Manual cataloguing of STEREO/HI CMEs**
  - Unique CME identifier
  - Image in which Cme is first observed
  - Observing Spacecraft
  - Position angle extent
  - Quality flag
- Complete for **STEREO-A** and **B**, **April '07 – August '14**
- Available on HELCATS website <http://www.helcats-fp7.eu>

