

HELCATS: WP2 TECHNICAL MANUAL

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TASK 2.1: MANUAL CATALOGUING OF STEREO/HI CMES

The WP2 observational catalogue¹ is generated via the following steps (on the **stereo-ops** machine at RAL Space):

1. Open the HI1 image file to be inspected.
E.g., for the date 2008-02-01 execute the command:
*gv /data/ukssdc/STEREO/stereo_work/jaq/CME_LIST_PLOTS/
2008_A_DIFF/HI1A_20080201_diff.pdf*
2. Into the respective year file in the HELCATS directory is entered the CME date and time (of first appearance), the north and south position angles, a central position angle (deemed best for performing a J-map tracking of the event) and quality index (0, 1 or 2).
E.g., for the date 2008-02-01 in file
/soft/ukssdc/share/Solar/HELCATS/catalog/STA2008.txt
there is an entry for a CME with parameters
date 01 | month 02 | hour 10 | min 49 | pa_N 55 | pa_mid 80 | pa_S 95 | quality 1
3. Run the code ***create_wp2_catalogue.pro*** in directory
/soft/ukssdc/share/Solar/HELCATS/codes/
where the environment variable 'HELCATS' points to the directory
/soft/ukssdc/share/Solar/HELCATS.
This procedure involves the following main steps.
 - (a) Run the code ***combine_wp2_lists.pro*** to collate the yearly text files into a single text file in the appropriate format for the observational catalogue. This generates the files *STEREO-[A|B]-CME_LIST_WP2.txt*.
 - (b) Run the script ***process_wp2_cat.sh*** to merge the STEREO-A and -B lists into a single time ordered catalogue, remove the 'Halo' field and output in ASCII, JSON and VOTable formats. The resulting files are respectively named in the convention *HCME_WP_Vnn.[txt|json|vot]*.

¹http://www.helcats-fp7.eu/catalogues/wp2_cat.html