HELCATS: WP2 HI CME Catalogue
Technical Manual

Editor: Jason P. Byrne – Oct. 2015

Task 2.1: Manual Cataloguing of STEREO/HI CMEs

The WP2 observational catalogue[1] is generated via the following steps (on the STEREO-OPS machine at RAL Space with the environment variables listed in the appendix below):

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
   $HELCATS/HI_catalogue/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
   $HELCATS/codes/
   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_WP2_Vnn.[txt|json|vot]*.

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

APPENDIX

ENVIRONMENT VARIABLES ON STEREO-OPS AT RAL SPACE:

setenv HELCATS "/soft/ukssdc/share/Solar/HELCATS"
setenv HI_CATALOGUE "/soft/ukssdc/share/Solar/HELCATS/HI_catalogue"
setenv WP2_CATALOGUE "/soft/ukssdc/share/Solar/HELCATS/WP2_catalogue"
setenv WP3_CATALOGUE "/soft/ukssdc/share/Solar/HELCATS/WP3_catalogue"
setenv HELCATS_CODES "/soft/ukssdc/share/Solar/HELCATS/codes"
setenv HI_TRACKS "/soft/ukssdc/share/Solar/HELCATS/tracks"