

EIS Core Team Studies

Week beginning 23rd November

As of 21st November 06:03 UT, activity remains low except for AR 10974 which is close to the west limb. STEREO-B suggests continuation of extended N-polar CH. XRT shows a large CH network on-disc linked to the S-polar CH. Conditions remain good for CH observations.

- 0_a. Continue with SYNOP001 at Sun-centre during each XRT SYNOP.
- 0_b. SYNOP002 to be run Mondays on Sun-centre QS; once per week.
- 0_c. EIS participation in mission co-alignment studies as required
- 0_d. Do not run HPW001_FULLCCD_v2 due to compression problems
- 0_e. TOO: If a suitable AR becomes available at the limb, EIS TOO observation should be #9 below

1. Test SYNOP 004 (Harry Warren) which is now available in the data base
2. (HOP 52) Walsh, Plunkett et al - Multi-point, high cadence EUV observations of dynamic corona a) waves, b) dynamic brightenings (**XRT interest:** A. Savcheva, K. Ishibashi)
 - joint observation with STEREO/SECCHI (also SOHO/EIT, TRACE)
 - SECCHI will have **two** alternative high data rate 2 hour slot possibilities;
 - choice from 29/11 or 30/11; QS programme if no AR; SECCHI/Plunkett to select
 - **AR, if available**, use context raster study 178 - ardiagn_hcadrast with COOL_AR_MOVIE (ID #186); 10s exposure, 40" slot
 - **otherwise QS at disc centre** (avoid CH if still present)
 - Study 210 : quiet_sun_studies_slot; Slot: 40", Exposure: 60s, FOV: 40" x 512"
 - Study 211: quiet_sun_studies; Slit: 2", Exposure: 60s, FOV: 80" x 384"
 - Plan for QS: quiet_sun_studies (211) before SOP; quiet_sun_studies SLOT (210) repeated twice during SOP; quiet_sun_studies (211) after SOP for context.
3. G. Doschek: Observations of a polar coronal hole. (**XRT interest:** A. Savcheva)
 - run HPW001_FULLCCD_RAST
 - point on disc in CH with as much slit as possible above limb
4. van Driel-Gesztelyi, Baker, Culhane; On-disc Coronal Hole at limb (**XRT interest:** A. Savcheva)
 - multi-wavelength jet imaging for lower latitude on-disc CH; disk-pole comparison
 - 40 arc sec slot raster for jet velocities and light curves,
 - Study HPW007_QS_SLOTW_v2, ID: 43
 - observe CH interior inside and at limb when extended CH reaches limb
 - **XRT comment:** if possible run at both limbs, supports disk-pole comparison
5. K. Dere - Observations of a disk coronal hole (**XRT Interest:** A. Savcheva)
 - Study kpd01_qs_1slit_55stp_1ac_60s (ID: 147); run five times,
 - move pointing 55 arcsec between rasters to cover CH and surroundings.
 - continue to run raster at center of CH; long observation set of one or more days
 - run after SUMER campaign when suitable CH is back near disc centre
 - **XRT comment:** run also for CH at E/W limb; disk/pole jet comparison

6. H. Warren: Quiet limb observations from just inside limb to well outside the limb.
(**XRT Interest:** K. Korreck)
- Quiet limb raster with HPW001 (v1) at East and West limbs
 - one or two day period; absolute wavelength calibration; need more observations
 - run with Peter Young's study "QS_atlas_off-limb"
 - **XRT comment:** Study X-ray luminosity relationship to solar wind at 1 AU.
Deep exposures with Al_p, C_p, Ti_p
7. J. Mariska: Limb observation for line broadening and diagnostic line ratios above the limb. (**XRT interest:** K. Ishibashi)
- sequence of sit-and-stare observations that can be summed; - sit-and-stare to be repeated as several locations above the limb; 10, 20, 30 arcsec
 - raster from inside the limb to well above with relatively long exposure times using GAD002_AR_RAST, or HPW_004_QS_RAST, IUU_QS_SNS_001
 - **XRT comment:** provide context FoV images

Week beginning 30th November and beyond

Should suitable activity develop, 9, 10 and 11 available. #10 has been run recently; #11 needs modification (see below)

9. H. Mason, Sterling, Young - Temperature Structure of AR at the Limb
- TOO for suitable AR (**XRT interest:** K. Reeves, K. Korreck, K. Ishibashi, S. Savage)
 - determine AR thermal structure and density as f(height) above AR core
 - AR close to limb; core just inside and most structure above limb
 - two/three runs of program on different days for each AR; max of three ARs
 - run CAM_AR_LIMB_v1; 2" slit, 45sec exposure, full length slit, 6' wide raster, run time: 2.5 hours; AS to specify SOT observation; Run week of Nov 19th
 - XRT: Al/mesh and Ti/poly, short- and long-exposure pairs, XRT select exposure time; FOV 512" x 512", 1x1-pixel binning, four images (one/filter) per min.
 - **XRT comment:** consult XRT re possible filter selection change
10. (HOP 37) Ineke de Moortel – High Cadence Studies of Propagating Waves in Coronal Loops
- context raster and high cadence slot raster; Study ID 183
 - observe quiescent non-flaring loop on disc or limb
 - context raster followed by repeated high-cadence slot rasters
 - SOHI CDS and TRACE to co-point for high-cadence target
 - run recently; TRACE coverage not optimum, assess study outcome
11. (HOP 19) Gerry Doyle – Search for Fast Magnetoacoustic Waves in AR Loops
– Loop Density Measurement
- arm_fastslot_waves and arm_loop_ne
 - AR near disc centre with resolvable loops
 - ideally studies run sequentially but at least on the same AR
 - due to data rate and data compression issues, arm_fastslot_waves needs revision
12. J. Mariska; Studies of transient brightenings in quiet Sun regions
- aimed at better understanding short timescale activity in the quiet Sun
 - HPW005_QS_SLOT_60m or HPW006_QS_SLOT_120m, for slot raster movie

13. P. Young; Coronal Hole – Study of Narrow Velocity “Plumes”
 - narrow plume-like structures seen in velocity, not in intensity maps
 - was run in week of 21st Sept, assess outcome

14. P. Young, C. DeForest ; Quiet Sun - Search for Small Coronal Holes
 - small dark QS features seen in SECCHI/EUVI data
 - may be small coronal holes
 - optimum visibility in combined STEREO images
 - not seen with TRACE and EIT
 - about 1-3 supergranules in size and fairly common in QS.
 - EIS spectra to check velocities/densities; compare with normal CH - -
 - large format raster to maximise detection probability
 - run: ar_velocity_map_v2 (duration: 5hr 40min)
 - was run in week of 21st Sept, assess outcome

15. J. Mariska - Quiet Sun sit-and-stare observations.
 - quiet Sun short timescale activity
 - IUU_QS_SNS_001, preceded by HPW_004_QS_RAST, for context