Information and Instructions for Preliminary Schedule Checking of ECS SI Modes

It is ACIS Ops' responsibility to balance the amount of cold time across all three SI Mode Groups:

TE_007AC
TE_007AE
TE_00B26

See the "ECS Cold Time Tracking" web page, for any week, to learn how the 4 and 5 chip ECS SI Modes map to the three listed above. Also, scroll to the bottom of any week and read the rules you must follow in SI mode assignments.

The rules to be followed are repeated here for convenience:

Rule #1: The key time period for balancing SI mode statistics is the **6 month Epoch** By the end of the epoch, the SI mode statistics should match the rules stated below.

Rule #2: Each of the three, default, 6 chip, SI modes (or their 5 or 4 chip equivalents) must be used at least once in each load week.

- If two SI modes are lagging in either cold time or total time, apportion the week's ECS measurements between the two of them roughly commensurate with the amount they are lagging.

- The 6 month Epoch allows "even" correction of two lagging SI modes. No need to pile a weeks worth of ECS measurements on one SI mode if two are lagging.

Rule #3: Make certain to spread the amount of **COLD** ECS time as evenly as possible across all three SI modes. Balance Cold measurement data between the three default 6-chip modes within 10% of each other on an Epoch basis

Rule #4: Spread the amount of *Total* ECS time as evenly as possible across all three SI modes.

- Balance Total measurement data between the three default 6-chip modes within 10% of each other on an Epoch basis.

Rule #3 takes precedence over Rule #4.

Rule #5:At least 60% of scheduled ECS measurement time must be -118.7 deg C

Rule #6: Any ECS measurements during a Perigee Passage that are cold MUST be assigned to the nominal ECS run SI modes. i.e. Any requested Rawmode runs can be done with a warm focal plane.

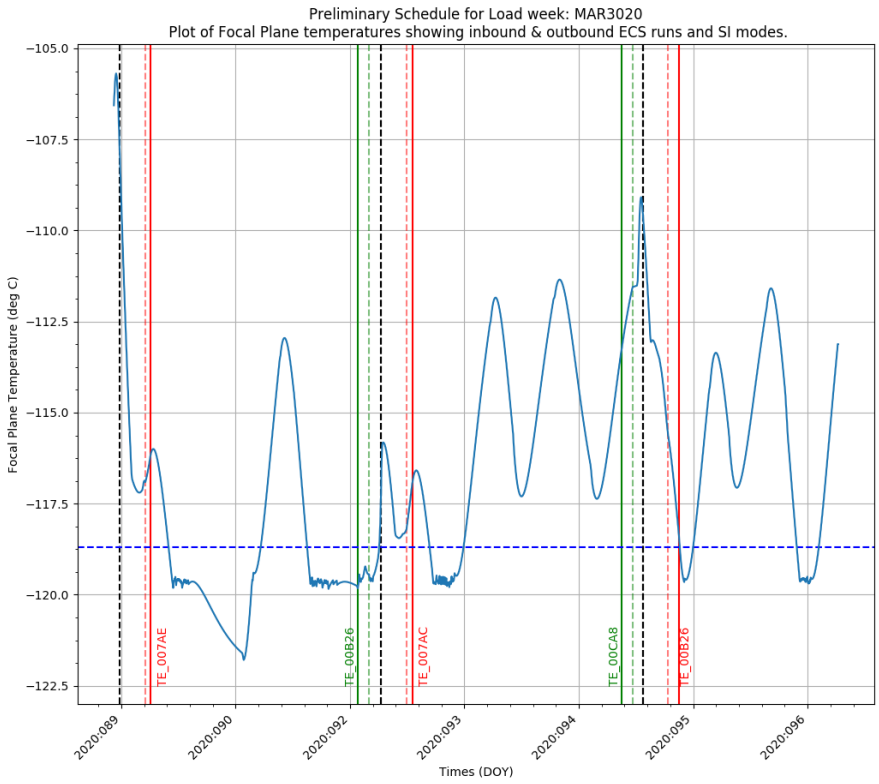
This check is performed as part of your Preliminary Schedule OR check. First complete the ORCHECK checklist as you normally would. When the checklist is complete DO NOT leave the directory in which the resultant SMTE files are located.

A new final step is to adjust the assignment of ECS measurement SI modes if the amount of cold or total time across the three mode groups is not well balanced. If an SI mode needs to be changed, you will state that in your Preliminary Schedule email Report. FOTMP will make the necessary changes before the load is released for review. It is up to ACIS Ops to check the subsequently released load and be sure that any change requests were carried out by FOTMP.

The general procedure is:

1) Run the CheckECS_[CLL/SLA] program which will generate a plot for you
   - Obtain the ACISFP and CTI_report text files from the FOTMP Preliminary Schedule web page

2) Look at the plot; look at where any cold time is assigned; look at the current ECS Trends web page; make any adjustment to the SI mode assignments necessary to balance the cold time. This is an example of the resultant plot:



I have provided you with two scripts to run in order to generate the plot. Use the script you like the best.

There are details and nuances to understand in obtaining the necessary files. You really need to read the information that follows the instructions to be sure you are downloading the correct files.

For the purposes of this discussion, we will use the MAR3020 Preliminary Schedule:

https://icxc.harvard.edu/mp/mplogs/2020/MAR3020/pre_scheduled/MAR3020_SOT2.html

To get to the list of files, Click on “Predicted Thermal Plots”

https://icxc.harvard.edu/mp/mplogs/2020/MAR3020/thermal/

This directory/URL contains the files you need to create the SI Mode assignment plot. You need 2 TEXT files:

1. ACIS Focal Plane temperature Text File
2. CTI report Text file.

In general, the names will look like this:

MAR3020_ACISFP_prelim.txt
MAR3020_CTI_report_prelim.txt

If a second CTI report file is added to the page it will have a “2” appended to the name. Use that one – the one with the highest number.

As for the ACISFP files:

1) You want the file that has a capitalized “ACISFP” - ignore the lower case files. Those are created by Matt Dahmer after the fact.

Example: Ignore MAR2320B_acis_fp_plot.txt

2) The first file will have <load week>_ACISFP_prelim as the name – no number. If there is a second release of the Preliminary schedule there will be a “2” appended to the name; a third release will have a “3”. Pick the one with the highest number.

For example, in the MAR3020 Preliminary Schedule there was a second release so you see the file:

MAR3020_ACISFP_prelim2.txt

Use that one. The CTI Report files are not always updated when there is a version 2 etc. ACISFP file. Use the one with the highest number. (prelim.txt is the first).

Here are the two ways to generate the plot. In both cases you need to have your browser open to the web page with the files.

IMPORTANT: Whatever computer you are running the script on, that machine MUST have access to the icxc.harvard.edu web page/area. If it does not you will not be able to download the files.

Again be sure to take the TEXT files and not the PNG files.

Method #1: **CheckECS_CLL** - **C**opy **L**ink **L**ocation
- You supply the path to the files
- Usage CheckECS_CLL <load week>
  e.g. CheckECS_CLL MAR3020
  <load week> MUST be included.

The script will ask you to supply the full path to the URL so that wget can download the file. Hover over the necessary file and right click.

Select: Copy Link Location

Paste that into the window and hit return

The script will then ask you to supply the CTI URL. Hover, right click; select Copy Link Location; paste; hit return

The plot will be generated.

Method #2: **CheckECS_SLA** – **S**ave **L**ink **A**s
You download the files first, then run CheckECS_SLA
- Usage CheckECS_SLA <load week>
e.g. CheckECS_SLA MAR3020
<load week> MUST be included

First go to the web page with the files, hover over the ACISFP file; right click; select Save Link As. The file will be downloaded to the ORCHECK directory (once you direct the File Chooser there)..

Repeat the process with the CTI report file: hover, right click; Save Link As. The file will be downloaded to the ORCHECK directory.

Run CheckECS_SLA <load week>

The plot will be generated.

Format of the output plot file name is: <load week>_ECS_SI_modes.png

It is possible to run either script without being in the ORCHECK directory. The steps are:

1. CD to the directory you'd like the plot to appear in

2. source /data/acis/cmdgen/sacgs/bin/sg_env_source

3. Run CheckECS_{CLL/SLA] <load week>

But remember – you have to have access to icxc for the script to work.