| Task # | Task Description | Reported By | Pri | Assigned To | Notes | Estimate (hrs) |
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| | | | | | | |
| | **To be Assigned or Discussed** | | | | | |
| 2126 | State Vector -> remove coord keyword | Pat/Jim L | tbd | tbd | | |
| 2067 | Taking a brief look at scm data around uploading, I have realized that scw waveforms were saturated for THC between May 22 (included) and May 27 (uploading) and for THB on May 22 (included),  May 26 and May 30 (just after uploading on May 29). Looking at scw waveforms on June 1st, and 3rd, I have checked that the waveforms are no longer saturated on THC as well as on THB. So, the issue seems to be temporary. The other probes (THA, THD, THE) seem to be not concerned. I do not know whether such saturations were expected due to maneuvers or operations but I have preferred to let you know about these facts. | Olivier | 1 | tbd | | |
| 2107 | Add a new feature that allows the user to delete variables from the data processing window (avoids having to open the manage data window every time) | Aaron | tbd | tbd | | |
| 2108 | Manage Data: The manage data fields should be made tabable. | Aaron | tbd | tbd | | |
| 2109 | Calculate If the cursor is clicked onto the the last line in the program area, and if that line is blank, then inserted data names will appear either at the top of the field or at a recently clicked location. | Aaron | tbd | tbd | | |
| 1550 | Calculate: When saving your calculations to a file the extension is not automatically included requiring the user to add it manually later. | Aaron | tbd | tbd | | |
| 1549 | Get Spec - It would be nice if we organize some of the options in the top-right so that we can tell exactly when they are applied and how they interact.  For example, we could desensitize the regrid option when it doesn't apply.  Or perhaps organize the bases with a frame. Right now it almost looks like "normalize spectrum" is related to regrid, even though they are separate settings. | Pat | tbd | tbd | | |
| 1551 | The hourglass cursor does not stay on consistently while an overview plot is being generated. | Aaron | tbd | tbd | | |
| 1565 | I noticed while trying to export an EPS of some FGH that the fan compression algorithm can be very slow.   A little while back, I thought of a way to make the algorithm much faster at the expensive of slightly worse compression ratios.   I think this could be well worth implementing after this release and I don't think it would take too long. | Pat | tbd | tbd | | |
| 1560 | Variable Options: The widget tree in variable options is not being updated with the state of the other trees. | Aaron | tbd | tbd | | |
| 1578 | When calling: timespan,'2008-01-29/00:00:00',1,/day thm_load_state,probe='d',coord='dsl',/get_support_data It is printing the following error: % THM_COTRANS: input tplot variable is not a 3-vector. This may not be a big deal, or it may be indicative of the coord argument failing. | Pat | tbd | tbd | non-gui | |
| 2132 | While working on documentation, I tested the kw: THEMIS> thm_load_efi, probe = 'c', datat = 'eff', cdf_data = cdf_data Level = ['l1'] probes = ['c'] Datatypes = ['eff'] Type = 'calibrated' Variable is undefined: NSNAMES. Execution halted at: THM_LOAD_EFI 93 C:\My Documents\THEMIS\software\THEMREPOS\themis\spacecraft\fields\thm_load_efi.pro | Michael | tbd | tbd | non-gui | |
| 2133 | I found that VARNAMES was not working.  It turns out that it is not an input as given in the doc'n, but an output from CDF_LOAD_VARS.PRO.  That is also fixed b/c it needed CDF_DATA to be set (?).  It is probably supposed to be paired w/ the CDF_DATA kw, so I will just put it that way in the doc'n for now, and we will just call everything closed. | Michael | tbd | tbd | non-gui | |
| 2134 | In the current version, if you rename a quantity in the manage data panel, it automatically changes the labels.  This may not be appropriate now that we read label defaults when import, as it can sometimes replace a perfectly good label.  We probably want to fix this code, so that it is more careful before replacing a plot label. | Pat | tbd | tbd | | |
| 2135 | I didn't realize the cotrans messed up the velocities for earth centered coordinates.  Maybe what we really need to do is modify cotrans so that it correctly transforms velocities.  Users can incorrectly transform velocities just as easily using thm_cotrans on the command line, as they can using the coord keyword. | Pat/Jim L | tbd | tbd | | |

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| 2136 | When we implemented tplot_gui, we gave it support for the most important tplot options, but not many of the more obscure ones. It might be worthwhile to create a task for someone to go through exhaustively and implement as many tplot options as is feasible. That way people can more easily use the gui like an interactive version of tplot. Right now I feel like the more obscure options end up leading to gui plots that still look reasonably different from tplot plots. | Pat | tbd | tbd | |
| 2137 | The CDF attributes for some of our GMAGs list the wrong location for the calibration files in the attribute: dl.cdf.gatt.logical_source_description It lists the cal files at: CAL files at http://www-ssc.igpp.ucla.edu/themis_data/calib_files/ But the calibration files for: ATHA, FSIM, FSMI, GILL, PINA, RANK, SNKQ will be found somewhere on this site: http://portal.cssdp.ca:8080/ssdp/jsp/logon.jsp | Pat | tbd | tbd | |
| 2138 | I just noticed a bug in exporting. The default resolution when exporting spectral plots is set too high. In the example I was looking at which contained one line plot and one spectral plot, this meant that a file that should have been 1.0 MB ended up 1.5 MB. It is a trivial fix | Pat | tbd | tbd | |
| 2139 | I noticed that when calc performs an operation that reduces the number of dimensions on a tplot variable, it doesn't reduce the number of labels and/or colors, which can cause tplot to issue a warning when a result is plotted. | Pat | tbd | tbd | |
| 2140 | A suggestion: The function used by tsub_average to return the median or average of the data can also be used to return the standard deviation. Since a single panel will probably be made for both the subtract average and subtract median options we could also add a third option to add/subtract the standard deviation. | Aaron | tbd | tbd | Subtracting the stand. dev. from a quantity may not make sense in the way that subtracting the average/median does. We may just want to direct people to the calculate panel, possibly adding a function to calc. stand dev. - Pat |
| 2141 | When adding the wavpol crib to the distribution, Olivier mentioned a limitation in the TDAS pwrspc & dpwrspc routines, that we may want to consider fixing. We may want to add a keyword so that "they allow to change the frequency resolution by merging near frequency channels." | Pat/Olivier | tbd | tbd | |
| 2144 | When running tests on rotation crib-sheets, I found a problem with some field aligned coordinate variants. Specifically, the Rgeo and mRgeo transformation don't normalize the y-axis vector of the transformation matrix such that the output matrix generated will not be a proper rotation matrix, but will also scale some of the components by a factor.(I think the scaling factor should be the Sine of the angle between the radial position vector and the magnetic field vector).Requires changes in both fac_matrix_make and thm_fac_matrix_make, but they should be fairly quick. | Pat | 1 | Pat | |
| 2145 | Problem with ASI crib when using the command 'ctime,/cut' to generate the movies, it generates an error if you scroll out of bounds. The exact error message produced is: Error: -161 Attempt to subscript <PtrHeapVar289> with I is out of range. % Stop encountered: $MAIN$ 58 /home/pcruce/IDLWorkspace/themis/examples/thm_crib_asi.pro % Program caused arithmetic error: Floating illegal operand | Pat | tbd | tbd | email from Harald |
| 2146 | Eclipse times from spin model -- user should be able to get some kind of feedback as to whether the spin phase and spin period are derived from "fresh" sun pulses or interpolated between eclipse start/end times. (From Edita G.) | FGM Team | tbd | Jim L | | 2 |
| 2147 | FGM spin harmonics correction (remove interference from solar array currents). David Fisher has produced several tables (each table valid for a few months; correction varies with sun angle) of FGM correction vs. spin phase | FGM Team | tbd | Jim L and/or Hannes | |
| 2147a | Decide on how to represent tables for use in thm_cal_fgm (keep as ASCII? convert to CDF?), get full set of corrections, convert to the desired format, install somewhere under /disks/themisdata (probably alongside FGM cal files?) | FGM Team | tbd | Jim L and/or Hannes | | 16 |
| 2147b | Add a step to thm_cal_fgm to load the appropriate correction tables for the probe & time interval being processed, use spin phase at each sample and interpolate within table to find correction at that point, apply correction. There should be a way to disable this correction (e.g. /NO_HARMONIC_CORRECTION keyword or similar, since David F. will need to periodically create new tables from the uncorrected data as data continues to accumulate). | FGM Team | tbd | Jim L and/or Hannes | | 40 |
| 2147c | Reprocess L2 FGM products with enhanced code | FGM Team | tbd | Jim M or Tim | It might make sense to delay 2147c and 2148b L2 reprocessing until the 2149d L1 reprocessing is performed. |

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| 2148 | ADC non-linearity correction: This was proposed as a correction to (i.e. reprocessing) the L1 FGM CDFs, but I think it really belongs in thm_cal_fgm as the very first step. There are jumps in the X, Y, and Z components of the FGM data when the field increases or decreases past some thresholds. Dragos Constantinescu has sent some IDL code to implement the correction, but today I'm told that this code doesn't work that well, and Dragos will be rewriting it to reflect that the size of the jump depends strongly on the rate of change as well as the threshold value. | FGM Team | tbd | Jim L and/or Hannes | | |
| 2148a | 3a) Incorporate Dragos' code in thm_cal_fgm (hold off on implementing until Dragos delivers improved algorithm; estimate 2 days from receipt of revised code?) | FGM Team | tbd | Jim L and/or Hannes | | 16 |
| 2148b | Reprocess L2 FGM products with enhanced code (Jim McT, combine with 2147c?) | FGM Team | tbd | Jim M or Tim | It might make sense to delay 2147c and 2148b L2 reprocessing until the 2149d L1 reprocessing is performed. | |
| 2149 | They were also asking when we'll be getting rid of the spikes in the L1 FGM data (Bugzilla #44 and #67). I told them that this is already in the queue, and I should be getting to it very soon. Maybe now is the time? | FGM Team | tbd | Jim L | | |
| 2149a | Packet lookahead in L0->L1 processing (Bugz #67) | FGM Team | tbd | Jim L | | 16 |
| 2149b | Apply despike algorithm to current packet if next packet has different range (Bugz #44) | FGM Team | tbd | Jim L | | 16 |
| 2149c | When a and b are coded and tested, build new tmtools release and start using it for automated processing. | FGM Team | tbd | Jim L | | 8 |
| 2149d | Reprocess all L1 FGM data (which should trigger L2 FGM reprocessing as well) will run for several days, should probably wait until "new justice" is operating reliably) | FGM Team | tbd | Jim L | Set-up only, then goes to Tim or Jim M | 1 |
| 2150 | minor bug in both the clip and deflag routines. If the "flag" argument is set to zero the keyword_set() function does not recognize that the option was called and the routine continues as though the argument was never set. We've had this problem elsewhere whenever zero is a desired value for a keyword parameter. It should be a simple matter to fix it. | Aaron | tbd | tbd | | |
| 2151 | Aaron was mentioning suggestions of adding a button to the Data Processing window to rename data quantities. What if we added the ability to right click on a data quantity in any of the widget trees and had a context menu to rename the data quantity? I believe there had been to talk to add manage data funtionality to data tree quantities, so maybe these could be combined. | Bryan | tbd | tbd | | |
| 2152 | | | | | | |
| 2153 | | | | | | |
| 2154 | | | | | | |
| 2155 | | | | | | |
| 2156 | | | | | | |
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| | **General** | | | | | |
| | Review EFI web pages on beta site | David | | John B | | |
| | Create web pages for FFT, FBK and FIT | David | | Chris Cully | target 7/3 | |
| | Enhanced SST and MOM Instrument Web Pages | David | | Davin | | |
| | EFI Wiki Pages | David | | John B | | |
| | SST Wiki Pages | David | | Davin | | |
| | New Server Installation | Vassilis | | Jon L | | |
| | Greenland data total magnetic field is only about 250 nT even if no baseline subtracted (from Harald). | Vassilis | | J Weygand | Waiting for student to have time. | |
| | Review corrections to the EFI Web pages from Amanda | David | | John B | | |
| | Move EFI Web Pages from beta to official web site | David | | Amanda | After John has verified changes | |
| | Problem with the front page of the web site. When you hover the mouse over the "Data" link near the top of the page, then move down to the "Data processing" or "Collaboration tools" menu items, the next level of fly-out menus is unreadable -- they're blocked by one of the images next to the "Latest News & Events" section. I'm using Firefox 2.0.0.20 on Windows. When I look at the site in Internet Explorer instead of Firefox, the menus comes out on top of the image like they're supposed to. | David | | Amanda | Amanda not yet notified | |
| | SST, ESA and EFI Wiki pages - initial entries | Vassilis | | Vladimir | | |
| | Calibration - send sample to Vassilis and David Sibeck | Vassilis | | Vladimir | | |
| | Link to Plots | Vassilis | | Vladimir | | |

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| | Data contain engineering, deployment, maneuver, and science data are in the same stream. From the data description, only maneuver flag state_man is provided. Do you provide information about the time intervals when the data are on, say, engineering level? This data, though valuable in many respects, may be confusing if interpreted as science data. To provide such information, it is possible, for example, to add some bits to existing state_man flag. (from Vladimir)   Quality flags (for each instrument to be added to L2 State cdf). | Vassilis | | Vladimir | | |
| | L2 File Definitions Document - awaiting L1 document to be completed to use as template. | Vassilis | | Andreas | | |
| | Clean-up the power ripples from the FGM data. | Krishan | | | awaiting programmer | |
| | Revise the Data Products Web page and send to Amanda | David | | David | | |
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| | **Harald** | | | | | |
| | Keograms being updated. | | | | Current status ASK through October 5 2008 | |
| | The THEMIS movies are now up to date and finished through the end of April. There will be a ~4 days     delay because we wait with the mosaic generation until that all the station data have been transmitted | | | | | |
| | Mosaic reprocessing post-February 2008 (Full Resolution). | | | | Process full resolution for March 1-15 2008, Jan 15 2009 and onward. (Jim M) | |
| | Overview plots for web site done though 4/30/2009. | | | | | |
| | CDF file up to date through 4/30/2009. During the tail season I kept these up to date  every 10 days. Now I planned to keep up with this task only once a month somewhere around the 10th of the following month. | | | | | |
| | Summary Plots through March 2008. | | | | | |
| | L2 ASI cdf's | | | | | |
| | When L2 ASI available Quality Flags and History Status? | | | | | |
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| | **Tim** | | | | | |
| 2068 | Data Recovery | Vassilis | 1 | Tim | Awaiting info from Jon | |
| 2069 | Support Mirror Sites | Vassilis | 1 | Tim | | |
| 2069a | Japan (ISAS) | Vassilis | 1 | Tim | | |
| 2069b | Austria | Vassilis | 1 | Tim | | |
| 2069c | France | Vassilis | 1 | Tim | (Rumi - not always up to date for gmags) | |
| 2069d | UCLA – mirror site set-up | Vassilis | 1 | Tim | UCB sent 08T UCLA loaded 06T.  Four bricks sent to UCLA - UCLA must reconfigure server first .   UCLA will need to supply SSH key - RSYNC Key | |
| 2070 | Support gmag data remote sites | Vassilis | 1 | Tim | | |
| 2070a | Augsburg (MACC's) | Vassilis | 1 | Tim | One of our researchers (Jim M) noted a problem in the Pangnirtung data - Nain and Cape Dorsett updating routinely. Other stations - Problem with ASCII files? Awaiting reply from Erik. If no reply by 6/12 Tim will ping Erik again. 6/22 - Glitches with Nain and Cape Dorsett - resolved? | |
| 2070b | Alberta | Vassilis | 1 | Tim | | |
| 2070c | Greenland | Vassilis | 1 | Tim | | |
| 2071 | Processing full resolution ASI data disks (Apr-Nov 2008). | Vassilis | 1 | Tim | On Hold for IT to complete backup. | |
| 2072 | Reprocess of ESA L2 data from these dates and all days after until 5/31. This is needed to fill in a missing energy bin in 88x15 full electron mode. | Jim M | 1 | Tim | On Hold for IT. | |
| 2096 | Inventory of Products, monitoring and building new alarms for Production Data Processing.   Draft document produced.  Next version with Harald's info as well | Vassilis | 2 | Tim | | |
| 2097 | Create checksum files for gmag (completed), ASI then Probe files | Vassilis | 3 | Tim | | |
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| | **Hannes** | | | | | |
| 2073 | New FGM offsets for tail season | Vassilis | 1 | Hannes | in progress | |
| 2074 | V03 STATE | Vassilis | 1 | Hannes | | |
| 2074a | Test FGM with new V03 STATE cdf | Vassilis | 1 | Hannes | | |
| 2074b | See email concerning parms ("thx_sci_mode", "thx_hsk_issr_mode") sci_mode - know fast survey, issr_mode - when IDPU thinks fast survey | Vassilis | 2 | Hannes | | |
| 2074c | quality flag for FGM data | Vassilis | 2 | Hannes | talk to Uli | |

| 2075 | Spin Axis offsets – Improve the new spin axis offsets calibration routine – In progress. A new technique has been developed for inside magnetosphere with high accuracy. Once complete a paper to be published. Sent data to Karl Heinz, included in the distribution | Vassilis | 1 | Hannes | | |
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| 2082 | Spin modeling during shadows BugZid=43 | Vassilis | 3 | Hannes | | |
| **Aaron** | | | | | | |
| 2033 | VMO file generation | David | 1 | Aaron | | |
| 2033a | One variable change to ASI files and possibly the whole repository | David | 1 | Aaron | received answer from Jan - implications? | |
| 2033b | SCM and EFI L2 variables | David | 1 | Aaron | | |
| 2033c | L2 STATE (?) | David | 1 | Aaron | | |
| 2127 | When the smooth() function is called for the y-data the width is applied to each dimension.  This causes the function to fail when it's applied to the second dimension, usually containing 3 elements, since the width is almost always larger.  We could solve the problem by either looping over each row in the array or by passing the smooth function a vector specifying the width of the extra dimension.  It's possible the second solution could have undesirable effects on the data, but that should be straightforward and easy to test for.

% SMOOTH: Width must be nonnegative and smaller than array dimensions: <DOUBLE   (     99.000000)> | Aaron | 1 | Aaron | | |
| 2128 | The '-1' applied on the same line to the n_elements() call ends up being applied to the user specified width as well (e.g. in the error message for the first bug the number is 99, it should have been 100).  This can be fixed simply by adding parentheses. | Aaron | 1 | Aaron | | |
| 1404 | Making data active, then selecting clear active, then trying to make data active again(without reselecting), does nothing.  It should add the data quantities that are still highlighted in the tree. This probably a result of the panel maintaining a list that duplicates the widget-state rather than querying the widget state as needed, and can probably be most reliably fixed by just replacing this list with queries to the widget tree. | Pat | 1 | Aaron | | |
| 227b | Variable options -  2)After removing a variable the '-' delete button remains sensitive yet no variables are selected and clicking it does nothing.  Either the button should be desensitized or another trace (first or adjacent maybe) should be selected after a delete. | | 1 | Aaron | | |
| 551 | Change a setting, then check "set all", then click Apply (as opposed to checking "set all", then changing a setting, then clicking Apply).  The change should still propagate to all panels.  This is probably a phase II bug. | | 1 | Aaron | | |
| 37 | Add horizontal slider bar to top of draw area, slider vertical as well | | 1 | Aaron | On hold: Discuss with Cindy and Pat | 16 |
| 1296 | Analysis: Include keywords - analysis of needed changes | Vassilis | 1 | Aaron | | |
| 1303 | While I was documenting the draw object I noticed a bug in the way variables are drawn.  The routine that calculates the space variables occupy, ignores layout row/column, so if variables are in the left column and right column, it will overestimate the amount of space that variables take and draw the panels with too much space.

I'm not sure that this is might priority because we aren't putting a lot of effort into deal with multi-column layouts.  But bugs like this are probably replicated in a number of places.  Specifically, code that:
 (1) assumes panels will be lined up in a single column.
 (2) assumes that panel index will correspond to display position. Will have problems.

We may want to put a note to test this in the next phase of testing, so that we can identify all the problems in this set.

Another example:
  The variable panel assumes (2), so that if panels are arranged out of order it selects the incorrect default when opened. | Pat | 1 | Aaron | in progress | 4 |

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| 1067 | Axis Options: 1) Insufficient precision for Unix times in bound autoscale min/max. 2) The first time I tried setting the autoscale min/max, I used 0 and 20. When I applied the change, I got a cryptic status bar message "Draw Object Error: Updating panels". I think this is because none of the data had an X axis value in that range. If so, that should be checked for, and result in a warning dialog rather than a status bar message. 3) Floating Center: Span not calculated correctly for logarithmic scales; for a time axis the calculated span is way too large. It looks like it might be using log(max-min) instead of log(max)-log(min). | Pat | 1 | Aaron | | 4 |
| 593 | Bug with writing flat-file, the code is being too restrictive with its types. Need a standing rule to always promote bytes to 4-byte integers. | | 1 | Aaron | | 8 |
| 1196 | Overview plots - nodownload flag bugs 1.Catch error FILE_LINES: Error opening file. File: /Users/pcruce/data/themis/tha/l1/fgm/0000/tha_fgmcal.txt No such file or directory. Execution halted at: THM_CAL_FIT 79 2. Catch Error - Expression must be a structure in this context: DAT. Execution halted at: SPLIT_VEC 41. 4. Catch error - Expression must be a structure in this context: TMP. Execution halted at: THM_UI_OVERPLOT 561. | Pat | 1 | Aaron | | 2 |
| 1318 | I noticed a bug in the GetVarData method on the loaded data object. If it's called with the dlimits option and then called later on the same quantity but w/ the dlimits option set the original pointer will be replaced with an null pointer. | Aaron | 1 | Aaron | | 4 |
| 1065 | Another bug is that when Apply is hit (continuing from the procedure in bug #1, separate e-mail), the fixed scaling (both limits) is updated in log space when I had asked for only the lower limit to be changed to center^2/(upper limit). This is not a difficult mod, but it seems to be in the draw object, and I do not know how to step through the code b/c the focus shifts away from the command line. | Michael | 1 | Aaron | | 2 |
| 1562a | The Margin spinner behavior is too strict, as it enforces the validity of input on every keystroke instead of on Apply. This produces odd behavior when backspacing, etc. This also applies to the Row, Column, Row Span, and Column Span spinners | Bryan | 4 | Aaron | | |
| 1572 | The # of Minor Ticks spinner isn't reset to a valid value after a non-numerical value is applied. | Aaron | 4 | Aaron | | |
| 1573 | No message is given to the user within the gui if an overview plot fails due a date that is too early or too late (e.g. a date in 2001 or a week from today). | Aaron | 4 | Aaron | | |
| 2124 | I loaded a plot which had the line color as white. Because the legend plots in the same color as the line, the legend text did not show up. We should probably just put in a check for this case. If the line is white and the background is white then draw the text in black | Pat | 4 | Aaron | | |
| 1267 | We don't currently have any messages going to the status bar saying whether a rubber band operation succeeded or failed. It would probably be help to the user if we did. | Pat | 4 | Aaron | | |
| 1061 | Legend Options Window. Determine requirements, design/implement window. For discussion: Once we have an options window implemented for the Legend it might be useful to allow syncing of label text to legend text. | | 4 | Aaron | | 40 |
| 806b | Add marker titles | | 4 | Aaron | | 16 |
| 802 | Would be nice to have a THEMIS color palette quickly available, maybe a dropdown menu with the 5 themis colors, or a check box to say use 5 default colors? | | 4 | Aaron | | 4 |
| 24 | • Page Options (for printing) o allow user to toggle landscape/horizontal o ungray widget to allow user to modify canvas settings o add window size to page settings template o need algorithm to print a large canvas | | 4 | Aaron | talk with Pat re algorithm to print large canvas | 40 |
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| | **Bryan** | | | | | |
| 2002 | Sit-in on GEM PPT Slide Reviews | David | 1 | Bryan | | 4 |
| 2021 | It looks like there's a bug that limits specplot's ability to handle short timespans of data when setting the DATAGAP. Until we can get a fix out, you should be able to get the output you want by using the \options command to set the 'overlay' to 1  options, 'tha_ffp_??_*', 'overlay', 1. then you might have too  reset the color bar with the zlim command: zlim, 'tha_ffp_??_*', 10e-14, 10e-5 | | | Bryan | | |

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| 1248 | D Power Spectrum doesn't seem to work on thg_pseudoAE. The dproc status bar returns "thg_pseudoAE Not processed." The seems to be some problem with loading the resulting tplot variable into the GUI as the console reports: STORE_DATA(177): Creating tplot variable: 243 thg_pseudoAE_dpwrspc STORE_DATA(76): "" not a valid handle name<br>This also happens with tha_peif_density. | Bryan | 1 | Bryan | | |
| 2025 | thm_part_moments2 so that it properly handles single-angle energy spectra when pitch/gyrophase constraints are requested by the user. | Vassilis | 1 | Bryan | | |
| 481a | We need to add a meta data structure to spectra data objects so that they y-axis for these plots will be automatically set to linear or logarithmic depending on the type of spectra. | Bryan | 1 | Bryan | etc 6/26 | 28 |
| 2020 | If requesting 1 hour of data using timespan, then load data using one of our load data routines. Recommend if there is a fix at the load cdf level and generic. | Vassilis | 1 | Bryan | to be discussed at software meeting | |
| 2026 | Get Spec - 1) Step 11,b,i: Throws a CL error (after the popup): Traceback Report from THM_UI_PART_GETSPEC_OPTIONS_EVENT: Array subscript for PASPEC must have same size as source expression. Execution halted at: THM_PART_MOMENTS2 1070 | Vassilis | 1 | Bryan | | |
| 2013 | Think about making 2D slices through distribution. See medical imaging code in IDL demo." | Vassilis | 2 | Bryan | wait until July | |
| 2013a | 2D first migrate code into crib | Vassilis | 2 | Bryan | in progress | |
| 2013b | 2D with med imaging code | Vassilis | 2 | Bryan | | |
| 2013c | 3D slices | Vassilis | 2 | Bryan | | |
| 2027 | thm_load_state - phase II (consult with Ken) | | 2 | Bryan | Re-visit - streamline | |
| 2027a | For STATE CDF files, the following variable attributes should be defined, consistent with they way they are defined in the L2 FGM file: units, coordinate_system (consult with Jim L.) | Vassilis | 2 | Bryan | | |
| 2027b | Once defined in the CDF, thm_load_state should take the values from the dlimits.cdf.vatt to set the metadata for the tplot variables: dlimits.data_att.units, dlimits.data_att.coord_sys | Vassilis | 2 | Bryan | | |
| 2027c | For thm_load_state, the suffix gets added to support data, but support data is not transformed: if you call thm_load_state, coord='gse', suffix='_gse', /get_support_data only the pos and vel get transformed, but all get the _gse suffix. | Vassilis | 2 | Bryan | | |
| 2027d | in thm_load_state, the code to delete support data that was loaded for coordinate transformation should be just del_data, '*_state_temp' e. THC braid photoelectrons | Vassilis | 2 | Bryan | | |
| 2027e | Finishing the coordinate transformation of the thm_load_state data at input, to include transformation of spinaxis attitude, need to determine keyword switch, implement the rotation of the spinaxis elevation/azimuth from gei to arbitrary coordinates (consult with Pat, Vassilis and Ken) | Vassilis | 2 | Bryan | | |
| 2028 | Variable units – generic solution - thm_load_spin, _state, _hsk, _sst, _esa, _bau, _fgm, _fbk, _fft, _fit, _scm, _efi, _trg, _asi, _gmag, _ask, _mom, _esa_pkt | Vassilis | 3 | Bryan | | |
| 2029 | From Hannes | Hannes | 3 | Bryan | | |
| 2029a | Provided is the most common plot used by scientists that look at magnetic field data. Four panels Bx By Bz Bt and the position X Y Z as variables. Often the radial distance R is another variable. It would be great if someone enters e.g. tplot,'tha_fgs_gsm' such a useful default plot would appear. I am currently not able to produce such a plot using tplot. Another useful plot would be instead of one trace per panel, 5 traces per panel. One for each spacecraft and 5 sets of positions as variables at the bottom. For example: tplot,'th?_fgs_gsm' could produce such a plot. Also some standard plots that combine ground and spacecraft data could be useful. Notes from Vassilis: define keyword /positions default 'none', allow GSM X Y Z, R Lat Long,....... | Hannes | 3 | Bryan | | |
| 2029b | The level 2 CDF files at http://themis.ssl.berkeley.edu/data_download.shtml should contain position in various coordinate systems as well. Preferably in the same resolution as the data. Otherwise Scientists need to get the position from another source. Notes from Vassilis: option to introduce the data in RE with keyword (one RE =6,478 kilometers ???). Like thm_load_fgm /pos_units= 'RE'. Also thm_load_state keyword out_coord = 'GSM', 'GSE',...etc. | Hannes | 3 | Bryan | | |
| 2029c | If one loads fgm data from probe 'a' and let's say there are no data for the chosen interval. The variables tha_fgl and tha_fgl_gsm etc. should all be empty. It could be those variables still contain data from the previously loaded interval. | Hannes | 3 | Bryan | | |
| 2030 | upgrade thm_load to work with probe assignments | Vassilis | 3 | Bryan | | |

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|---|---|---|---|---|---|---|---|
| 2031 | move functionality of thm_load_state2 into thm_load_state and delete thm_load_state2 | Vassilis | 3 | Bryan | | |
| 2032 | Multiple enhancements concerning keywords, valid_names and thm_load routines | Vassilis | 3 | Bryan | | |
| | | | | | | |
| | **Cindy** | | | | | | |
| 2000 | Prep for GEM - sort out projector, PPT slides, make trip | David | 1 | Cindy | | |
| 2022 | Train Jim L to give GUI Training at SSL | David | 1 | Cindy | sent training script to Jim L. | |
| 64 | Analysis Panel - Need to provide a way for users to select a new variable name when data is manipulated. A default name will be provided, but need an editable text box for user to enter a different name.  Loaded Data - add suffix to variable names | | 1 | Cindy | Did this go to Aaron  is it closed? | 16 |
| 1510 | If you get an invalid marker error during marking, with either track one or track all turned on. (For example by starting/ending a marker outside of a panel),  the vertical/horizontal bars don't get turned back on, after marking is complete. | Pat | 1 | Cindy | | 4 |
| 1220 | The panel that the selected trace is on should be selected. | Bryan | 1 | Cindy | | 2 |
| 1434 | Markers: If I get a warning because I ctrl-click without dragging.(ie "Could not create marker because marker had insufficient width") It will treat the CTRL as if it is off, even if I leave it pressed.  We might want to fix this, although it doesn't appear to be doing anything too harmful. | Pat | 1 | Cindy | | 4 |
| 964 | I noticed a bug with the x-grid thickness.  For some reason if I use a style like dotted and increase the thickness, the thickness doesn't appear to increase properly for the portion of the grid near the axis itself.  This is a pretty minor aesthetic thing, so I don't think it will be a big deal if we put it in the next phase. | Pat | 1 | Cindy | in progress | 3 |
| 2063 | Problem with edit3dbins is being caused by IDL's mouse system variable not being updated correctly on Macs.  The ctime procedure, used to interactively select a time from a tplot window, relies on this variable to determine when a selection has been | Aaron | 1 | Cindy | | |
| 1066 | Layout Options: I noticed that if the user has 'Show Data Components' checked but they forgot to or don't realized they must select both X and Y variables then no message is given to inform them.  This may be confusing for the user as they'll have no way of knowing why the 'Add ->' button isn't working in such a case. | Aaron | 1 | Cindy | | 1 |
| 1304 | This is not super important, but I noticed that the "draw between points" option in the line options window offers the same units regardless of whether the quantity being plotted is a time or not.

For example, If I plot state_pos_x vs state_pos_y, I can go into the line options, and set "Do not draw between points if separated by more than 1 hour", and instead it will not draw between points if the separation is more than 3600 km.

To fix, The convention we've adopted on the other panels, is to show the time related options(seconds,minutes,hours,days) when isTime is on, and to show the non time related options when it is off(<none>), rather than the full list (seconds,minutes,hours,days,<none>) | Pat | 1 | Cindy | | 1 |
| 962 | When selecting data, L1 and L2 can be selected at the same time and the result was confusing.  since the low-level commands can only load one or the other, the GUI interface should enforce the same restriction. | David Sibeck | 1 | Cindy | | 8 |
| 703 | Suggestions: The plot for a given panel disappears if logarithmic scaling is chosen for a fixed axis with negative limits.  No error is thrown and the plot reappears when the values or scaling are changed.  In the future we may want to send a notification to the user as to what happened. | | 1 | Cindy | | 2 |
| 2098 | An IDL crib sheet has been provided that generates magnetic field and position data with the same resolution.   Scientists very often like to have a set of dayfiles of magnetic field data and position. So the crib heet could  be called inside a loop and for each day an output ASCII file could be produced. An option could be all 5 spacecraft merged with only one time column. Additionally a desired resolution could be another option | Hannes | 3 | Cindy | wait until end of July | 32 |
| | **Hithesh** | | | | | | |
| 2014 | Peter wrote code to reset ETC Kicker (1/8 or 1/9) after hang-up. | Peter | 1 | Hithesh | | |
| 2014a | Put together a simulation of ETC VHDL Design. | Peter | 1 | Hithesh | Working with Robert and may need MODELSIM software. | |
| 2014b | learn VHDL - . Look at the ETC VHTL programs and understand themis | Peter | 1 | Hithesh | in progress and almost complete | |

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| 2014c | First try to simulate in Modelsim. If unable to freeze ETC, then move to hardware simulation. If the problem is caused by Asynchronous signal (sun pulse), we won't be able to simulate the problem | Peter | 1 | Hithesh | Need to discuss with Michael Ludlam (6/19) what to do on flatsat. Talking to Actel about problem. | |
| 2015 | Logic Analyzer setup | Vassilis | 1 | Hithesh | Connections not complete yet. Ran it remotely. Works, but connections have to be checked . ETU needs to be restarted/checked. FSW booted to V2.1. Will call Dorothy. | |
| 2016 | Review FSW Specifications document for v5 changes. Need to add documentation on external memory dump . | Peter | 1 | Hithesh | Finished and sent to Peter | |
| 2017 | ESA – investigate invalid configs from Survey to burst mode in IDPU scripts. | Vassilis | 1 | Hithesh | Task cancelled | |
| 2018 | Leftover 512 burst packets | Vassilis | 1 | Hithesh | Analysis of SDT test continues. | |
| 2019 | Assisting  Deron on EFI sensor diagnostics test | | 1 | Hithesh | | |
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| **Jim L** | | | | | | |
| 2023 | Install latest release on Stephen Mende's Mac | David | 1 | Jim L | | |
| 2129 | GUI Script Training from Cindy | David | 1 | Jim L | | |
| 2024 | GUI Training for Stephen Mende | David | 1 | Jim L | | |
| 2130 | FGM offset study/debug for European Folks | Vassilis | 1 | Jim L | FGM processing: You have the new tasks from the Tues/Wed telecons (to be prioritized); still investigating offset behavior following perigee passes (was waiting on fixed BAU sun angle data, so can look at this some more now). | |
| 2131 | Research Data Permissions with Tim | Jim L | 1 | Jim L | | |
| 2123 | Reprocess L0->L1 BAU cdf's due to bug fix | Jim L | 1 | Jim L | BAU sun angle data missing/incorrect: fixed in QA, looks good, patch to automated L0->L1 processing deployed, copy fixed CDFs from QA->Production in progress | |
| 2034 | V03-L2 cdf STATE | Vassilis | 1 | Jim L | | |
| 2034 | V03-L2 cdf STATE -attribute structure | Vassilis | 1 | Jim L | need code for missing variables -in progress. After some discussion with Hannes, we     decided that the attribute structure for the new spin phase correction variable is incorrect. | |
| 2034c | writing some code to fill in the position and velocity variables for GSE and GSM coordinates. | Vassilis | 1 | Jim L | automation in progress | |
| 2034d | I need to add support to thm_load_state (and any load/cal routines that call thm_load_state, e.g. thm_cal_fgm) for specifying which version V00, V01, V02, V03 should be used for cotrans and calibration | Vassilis | 1 | Jim L | in progress enough data for Hannes to start testing | |
| 2034e | I need to enhance the spinmodel routines to use Hannes' spin phase correction, if present  With these code changes in place, we can hopefully make some kind of comparison between FGM data calibrated/cotrans-ed with V02 vs. V03 state to verify that the V03 attitude and spin phase corrections are  working properly. | Vassilis | 1 | Jim L | In progress -- won't happen before 5.1 is released, so this work will occur in a private branch instead of the trunk. Testing of V03 spin axis orientation (by Hannes) can start now,  then we'll do another round of tests when the spinmodel code is modified to use the V03 spin phase corrections. | |
| 2034f | revised QA script for STATE (path finder for other scripts to be revised later) | Vassilis | 1 | Jim L | Still in progress. V03 missing variables are fixed. QA scripts for thm_load_state in progress, but probably won't be ready for 5.1 release. Waiting for Hannes to complete his testing. | |
| 2035 | Split L1 ESA (using Thomas's  routine) in master ESA data cdf | Vassilis | 1 | Jim L | Send David Sub Task List by 6/26; Calibration variables removed from L1 data master CDF. (Side note: found and reported a bug in SKTEditor, which the Goddard team has agreed to fix...) Waiting for feedback from Jim McFadden about how calibration data should be handled (TH-A ASCII calibration file (used for all probes) doesn't match anything I removed from the data CDF). | |

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| 2076 | SM coord transformation in thm_cotrans does not work: fixing that would be too drastic a change for a patch release, because it might break a lot of existing code.  The issue is: if the in_coord parameter is not explicitly specified, and the dlimits structure also does not specify the coordinate system, do we want to try to figure it out from the "in_suffix" argument (current behavior, doesn't work for SM coords), or just fail with a message that a coordinate system must be specified with either the in_coord argument or dlimit structure (probably a better solution, but might break existing code). | Vassilis | 2 | Jim L | Issue Warning and not to let it fail. Clarification Needed | |
| 2036 | GOES 10-12 Test data: h. update labels (Howard's request - minor tweak) | Vassilis | 2 | Jim L | | |
| 2038 | STATE Web Page (s) | Vassilis | 2 | Jim L | | |
| 2039 | bad timing sun pulse times (early January 2009) | Vassilis | 2 | Jim L | Clarification needed | |
| 2040 | L1 Data Processing History Info: SCM, EFI, STATE | Vassilis | 2 | Jim L | | |
| 2041 | thm_load_state out_coord velocity calculations wrong | Vassilis | 2 | Jim L | | |
| 2042 | FGM range changes in the mid packet. Post Proc maybe a solution to eliminate the spike. BugzID=44. Bfield mid-packet jumps. | Vassilis | 2 | Jim L | | |
| 2043 | Refactor repeated CDF library code in CDF processing tools BugZid=50 | Vassilis | 2 | Jim L | | |
| 2044 | L0 to L1 processing: look ahead to the next packet before processing the current packet. BugzID=67 | Vassilis | 2 | Jim L | | |
| 2046 | Create a more efficient & productive prototype QA Instrument Command Line Script - first template (s)  functional blocks then scripts for FGM, ASK, SCM, FIT, MOM, ASI, EFI, FFT, FBK, Gmag, State, SST, ESA | Vassilis | 2 | Jim L | | |
| 2047 | Separate E and B timestamps for spin fits:  a) make a revised V02 master CDF with E and B separated b) change thm_load_fit to support V01 and V02 of the L1 CDFs c) change the L0->L1 processing code  d) change the L1->L2 processing code      e) test the changes, then reprocess to create the V02 CDFs (keeping  the V01 files around for a while to ease the transition) BugzID=45 | Vassilis | 2 | Jim L | | |
| 2047a | FGS sample times and values, showing repeated timestamps. BugzID=113 (BugzID=67 must be done first) | Vassilis | 2 | Jim L | | |
| 2047b | Repeated timestamps and gaps in spin fit data BugZid=113 (#67 may fix this one as well). | Vassilis | 2 | Jim L | | |
| 2077 | Non Monotonic timestamps. BugzID=72 | Vassilis | 2 | Jim L | | |
| 2078 | bau_sunpulse_met assumes x86 endiannes (BugzID=13) | Vassilis | 2 | Jim L | | |
| 2079a | FGL issue. We have learned that FGL data from probes C, D and E has a 0.25 sec timing error, starting in summer 2007, and continuing to the present (Feb 2008) time. We would like to fix these timestamps in the L1 CDF files. Process should be generic so future corrections can be easily handled. Low Priority steps or tasks: a. create a flag for the affected L1 variables somehow, to prevent confusion about which corrections have or  have not yet been applied. So each entry in the proposed correction file should have some sort of tag identifying what the correction is, which could be looked up in the CDF as a variable, variable attribute,  or global attribute. | Vassilis | 3 | Jim L | | |
| 2079b | Change L0-L1 code to take corrections into account. | Vassilis | 3 | Jim L | | |
| 2080 | Phantom packets" cause non-monotonic distribution times. BugzID=25, low priority. | Vassilis | 3 | Jim L | | |
| 2081 | Evaluate CDF compression algorithms BugZid=81 | Vassilis | 3 | Jim L | | |
| 2083 | Add "last processed" time to L1 (and L2?) CDFs  BugZid=115 | Vassilis | 3 | Jim L | | |
| 2084 | . transforming one data point from SM coordinates to GSM coordinates.  ct=time_double('2008-02-16/04:50:00') dipole=[[0],[0],[1]]   v=[1,2,3] store_data,'dipole_sm',data={x:ct,y:dipole,v:v} cotrans,'dipole_sm','dipole_gsm',/SM2GSM cotrans,'dipole_gsm','dipole_gse',/GSM2GSE get_data,'dipole_gse',data=dipole_gse xdipgse=dipole_gse.y[0] ydipgse=dipole_gse.y[1] zdipgse=dipole_gse.y[2] tilt=atan(xdipgse,zdipgse)  When I check the data for 'dipole_gsm', the values are 0,0,0. I'm not sure what they SHOULD be, but I know that their magnitude should equal 1. sqrt(x^2+y^2+z^2)=1 | Christine | 3 | Jim L | | |
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| | **Jim M** | | | | | |
| 2048 | Process full resolution for March 1-15 2008, Jan 15 2009 and onward. | Vassilis | 1 | Jim M | on March 5, 2008 | |
| 2049 | MOM Quality Flags and MOM Processing History | Vassilis | 1 | Jim M | Ready to go - Ready for Re-processing | |
| 2050 | Incorrect adjustment on S/C potential. Effects L2 cdfs. Fix in thm_l1_cal_mom | Vassilis | 1 | Jim M | | |

| 2951 | New ESA Quality flag for Jim McFadden | Jim McFadden | 1 | Jim M | in progress, reprocessing to wait until week of 6/29-7/3 | |
|------|----|----|----|----|----|----|
| 2052 | Add quality flag verbiage to ESA and MOM Data Description web page. | David | 1 | Jim M | Talk to Jim McFadden | |
| 2053 | Revise ESA Processing History Web Page | David | 1 | Jim M | Awaiting reprocessing completion | |
| 2054 | Issue with ESA data and Overview Plots. Pgm Change and reprocessing from Feb 2009-current ? | | 1 | Jim M | Program is fixed, reprocessing can go at any time, Email sent to Tim., will commit after MOM flags are up. Will need to reprocess ESA and Overview plots for the following: | |
| | | | | | ETC-sst-esa table load   TH-A   2009-02-02 22:30:14. | |
| | | | | | ETC-sst-esa table load   TH-D   2009-02-13 20:36 | |
| | | | | | ETC-sst-esa table load   TH-E   2009-02-13 22:27 | |
| | | | | | ETC-sst-esa table load   TH-B   2009-02-17 23:50:38 | |
| | | | | | ETC-sst-esa table load   TH-C   2009-02-18 00:52:20 | |
| 2055 | ESA L2 from L1 (not packets) - create L2 and test thoroughly, then reprocess ESA | Vassilis | 2 | Jim M | awaiting Jim L to split L1 into master cdf | |
| 2056 | SCM L2 cdf | Vassilis | 2 | Jim M | in progress | |
| 2057 | SCM CAL File Processing Doc | Vassilis | 2 | Jim M | text completed. Put into std document format and send to Olivier for review | |
| 2058 | found 3 errors in the new th*_l2_esa masters - the good news is, with them fixed in our masters, all plotting issues w/ the ESA files (in CDAWeb) seem to have been resolved. | Vassilis | 2 | Jim M | | |
| 2059 | L2 Data Processing History Info   Completed: ESA   Still to be Done: SST, MOM, FGM, FBK, FFT, FIT | Vassilis | 2 | Jim M | | |
| 2060 | L2 cdf Quality Flags: for  SST | Vassilis | 2 | Jim M | | |
| 2061 | Data Description Paragraphs | David | 2 | Jim M | | |
| 2125 | I received an error in the smoothing function with the no_time_interp keyword set (through the gui).  I was using mag data from drby on 2009-6-9 at 500 sec resolution. Traceback Report from THM_UI_LOADED_DATA::DPROC: $MAIN$ THM_UI_DPROC_PANEL_EVENT<C:\GUI\THEMIS_GUI\themis\thm_ui_new\panels\thm_ui_dproc_panel.pro( 123)> THM_UI_NEW_DPROC<C:\GUI\THEMIS_GUI\themis\thm_ui_new\utilities\thm_ui_new_dproc.pro( 179)> CALL_DPROC <C:\GUI\THEMIS_GUI\themis\thm_ui_new\utilities\thm_ui_new_dproc.pro( 57)> THM_UI_LOADED_DATA::DPROC <C:\GUI\THEMIS_GUI\themis\thm_ui_new\objects\thm_ui_loaded_data__dproc.pro( 104)>  ERROR_MESSAGE <C:\GUI\THEMIS_GUI\themis\thm_ui_new\utilities\error_message.pro( 256)> Last IDL Error: Unable to concatenate variables because the dimensions do not agree: ARRAY. % Execution halted at: SMOOTH_IN_TIME    153 C:\GUI\THEMIS_GUI\ssl_general\misc\smooth_in_time.pro | Aaron | 1 | Jim M | | |
| 2062 | Alberta - At the moment the data files are from Dawson (daws), Churchill (fchu), Island Lake (isll) and Fort McMurray (mcmu). I will add Rabbit Lake and Taloyoak at some time but we have some issues with mag pointing at those 2 sites. If you recall, the agreement between Ian and Vassilis was that this data wouldn't be copied to become part of a mirrored archive like the existing data we provide. Instead, each file would be obtained from this site each time it is requested (using curl or some such). This means we can use our own logs to monitor data usage. Themis Software to be able to retrieve from Alberta | Vassilis | 2 | Jim M | | |
| 2085 | Summary Plot mods | Vassilis | 2 | Jim M | | |
| 2085a | Fix duplicate velocity units by removing 'km/s' from ytitle and maintaining 'km/s' in ysubtitle | Vassilis | 2 | Jim M | | |
| 2085b | Either make velocity labels into ('X','Y','Z') or make velocity labels into 'VX','VY','VZ'.   So that the components are easier to distinguish. | Vassilis | 2 | Jim M | | |
| 2085c | Modify ytitles on esa eflux and sst eflux so that they do not collide. (Insert '!C's or change setting to make tplot do this automatically). | Vassilis | 2 | Jim M | | |
| 2085d | Set the scales on the zoomed out(24 hr) plots so that they are not autoscaled.   Information on appropriate yranges should come from Vassilis. | Vassilis | 2 | Jim M | | |
| 2085e | Change labels on temperature lines so that they are done in different colors (and possibly different linestyles). | Vassilis | 2 | Jim M | | |
| 2085f | If necessary, Update the plot key so that it reflects any of the changes above.  It'd probably be best to give this task to me, since I've done the past modifications of the plot key. | Vassilis | 2 | Jim M | | |
| 2086 | Orbit Plot on Summary Plot web page - on the right side, 3 plots vertically, each overview plot there would be orbit panels (coordinate with Harald). | Vassilis | 2 | Jim M | | |
| 2087 | Administrator's Guide | Vassilis | 2 | Jim M | | |
| 2088 | Themis Developers Guide | Vassilis | 2 | Jim M | | |

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| | thm_load_mom: for quantities like velocity, the coordinate system isn't stored in the meta data, and none of the units are stored in the place we normally try to store them (from Pat - Vassilis concurs) Will take a look. | Vassilis | 2 | Jim M | | |
| 2089 | Thm_fgm_overviews currently loads the data out of the fit file. It should probably load the data out of the fgm file. Only needs to load from one data source. Jim M thinks the thm_load_fit can be deleted | Vassilis | 2 | Jim M | | |
| 2090 | that streamlines the generation of gmag stackplots and a crib to show how to do this. (< than a day) | Vassilis | 2 | Jim M | | |
| 2091 | Once Jim McFadden completes his mods for n_3d_new_3 reprocess L2 cdf's - entire mission | Vassilis | 2 | Jim M | | |
| 2092 | thm_load_mom changes - reconcile mods with Davin at an appropriate time. | Vassilis | 2 | Jim M | | |
| 2093 | AE Indexes Issue Jan 8-12, keyograms Jan 12-13, Stripes-Vassilis: minor nuisance | Vassilis | 3 | Jim M | | |
| 2094 | Overview plot change: mode bar seems thick | Vassilis | 3 | Jim M | nothing we can do easily | |
| 2095 | Mosaic Processing - permanent script needed | Vassilis | 3 | Jim M | | |
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| | **Michael** | | | | | |
| 2064 | In the process of using XDEGAP in THM_CAL_EFI to check for data gaps, I found that XDEGAP does not do any type checking. Integer inputs do not get recast, so NaNs cannot be assigned. Instead, those assignments become zeros. I propose to for the output to be at least float (no need to do anything, if the input is float or double), so that NaNs can always be assigned. | Michael | 1 | Michael | Warning msg only | |
| 2065 | A related enhancement to XDEGAP would be to add a FLAG kw to allow the user to choose different flags to fill the gaps (NaNs, by default). | Michael | 1 | Michael | | |
| 2099 | npot computation | Jim McFadden | 1 | Michael | | |
| 2099a | Formula | Jim McFadden | 1 | Michael | McFadden has found bugs in the pipeline. I am on hold until he works those out (he is working with Bonnell and Mozer). | |
| 2099b | Modify THM_SCPOT2DENS to work stand-alone and with THM_FITGMOM_OVERVIEWS. | Jim McFadden | 1 | Michael | | |
| 2099c | McFadden requires more information on the bias changes from John as of 6/5 | Jim McFadden | 1 | Michael | J.B. says closed as of 6/11 | |
| 2099d | Integrate Nishamura's Npot routine as an option into THM_SCPOT2DENS | Vassilis | 1 | Michael | On Hold | |
| 2100 | EFI calibration | John Bonnell | 1 | Michael | | |
| 2100a | Insert CL message for the begin/end times of the encountered gaps. Also, output to kw and recored # gaps in metadata. | John Bonnell | 1 | Michael | | |
| 2100b | Implement nominal and minimum # of spins, and NaN data where intervals are shorter than min # of spins. | John Bonnell | 1 | Michael | | |
| 2100c | Implement my suggestion to put the EDC offset output into a structure w/ one tag for ea. datatype. | John Bonnell | 1 | Michael | | |
| 2100d | DC offset between 4sdo and 2sdo in boom plane | John Bonnell | 3 | Michael | Which is better? Assigned to J. B. (low priority). | |
| 2100e | Reason for detecting frequent gaps? | John Bonnell | 1 | Michael | Closed -> Waveburst data is often shorter than estimation window. | |
| 2100f | Check burst mode behavior w/ on-the-fly offset | John Bonnell | 1 | Michael | Use LASP? JB may think it's close one more look | |
| 2100g | Updated metadata, CL, and keywords to work with on-the-fly offset method. | John Bonnell | 1 | Michael | | |
| 2100h | Try to track down frequency scaling problem in DPWRSPC (dlimit setting? Compare to old plots?). | John Bonnell | 1 | Michael | On Hold | |
| 2100i | Poor despinning bug fix | John Bonnell | 1 | Michael | | |
| 2100j | Kepko and efi offsets | John Bonnell | 1 | Michael | | |
| 2100k | "Case-by-case" calibration parameters ("short-term" high accuracy corrections). LASP does this, but needs integration. | John Bonnell | 1 | Michael | email sent to John with suggestions. Waiting for a response. | |
| 2100l | Deconvolution -- LASP does this, but needs integration (see 2h). | John Bonnell | 1 | Michael | | |
| 2100m | The EFI program headers should include what inputs are valid for each keyword. Documentation | John Bonnell | 1 | Michael | | |
| 2100n | thm_load_efi - allow multiple coord's to be entered. Do not overwrite plot variables | John Bonnell | 1 | Michael | email sent to John. Waiting for a response. | |
| 2100o | efs data deleted when thm_load_fit run twice, second time only fgs data requested | John Bonnell | 1 | Michael | email sent to John. Waiting for a response. | |
| 2100p | Modify THM_CAL_FIT to treat efs datatype - Install E12/E34 conditional based on th?_fit_code TPLOT variable. If E12 switched to E34 software needs to be revised to handle | John Bonnell | 3 | Michael | | |
| 2100q | Correlate to onboard spin fits using EFP data. Look at FGM. | John Bonnell | 1 | Michael | email sent to John. Waiting for a response. | |

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| 2100r | Add the DATATYPE kw to KYOTO_AE_LOAD , and load only AE data by default | John Bonnell | 3 | Michael | | |
| 2100s | Get the downloader (KYOTO_AE_DOWNLOAD based on the new version of FILE_HTTP_COPY ) working | John Bonnell | 3 | Michael | | |
| 2101 | THM_SPINFIT simulates the on-board spin fits | John Bonnell | 2 | Michael | | |
| 2101a | Useful for investigating why the ground and on-board fits are different. Need wrapper for multiple TPLOT vars. | John Bonnell | 2 | Michael | in progress | |
| 2101b | Needs to run faster | John Bonnell | 2 | Michael | in progress | |
| 2101c | John to get me example code from Chris Cully. | John Bonnell | 2 | Michael | | |
| 2102 | FBK frequencies | John Bonnell | 2 | Michael | | |
| 2102a | Resolve conflict bet C. Cully and John B's bin center values. Conflict resolved. John agrees with Chris | John Bonnell | 2 | Michael | | |
| 2102b | Derive bin centers from CDFs (currently the bin centers are hard coded). | John Bonnell | 2 | Michael | | |
| 2102c | Make sure that bin center assignment from L2 works with any changes that Jim M. makes | John Bonnell | 2 | Michael | | |
| 2102d | John wants to calibrate by signal source – thm_cal_fbk | John Bonnell | 2 | Michael | | |
| 2103 | EAC offsets | John Bonnell | 2 | Michael | John has taken AC coupled data -> he will get me the offsets and the switch-over times. | |
| 2104 | L2 CDF | John Bonnell | 2 | Michael | J. B. to talk to Vassilis about expectations for users. Michael to find out what the programming task is. | |
| 2105 | EFI Calibration Document | David | 2 | Michael | | |
| **Pat** | | | | | | |
| 2001 | Prep for GEM - sort out projector, PPT slides, make trip | David | 1 | Pat | | |
| 2003 | SPLIT_VEC routine changes<br>        From Michael:  SPLIT_VEC should also split the labels (as well as the traces), if there are the same<br>        number of labels as traces.  Otherwise, you get the error:<br>MPLOT: Incorrect number of labels and often<br>        also the wrong label displayed for the split trace.   From Vassilis - Colors also, preserving the dlimits | Michael Vassilis | 1 | Pat | | |
| 946 | Print - Step 3) I can create eps files, and verify thet the .eps file is ok using ghostview or ps2pdf, but these do not print out. The 2 copies option does not seem to work. Step 4) The PCL4 file has only 35 bytes and does not print. The PCL5 fileis larger, but does not print. | Jim M | 1 | Pat | **(step 4,  not fixable) for discussion with Jim M** | 16 |
| 2004 | wavepol.pro and twavepol.pro - Put Olivier's into the distribution, test | Vassilis | 1 | Pat | | |
| 608 | Variables: When axes are locked, draw object should recalculate space needed between panels to display variables. | | 1 | Pat | | |
| 2005 | str_element does not add to embedded structures (BugzID=69) | Vassilis | 1 | Pat | | |
| 1456 | Page Options:  When the font on the variables is set to monospace symbol, the following warning shows on the command line:<br>% IDLGRSRCDEST::DRAW: Select Charmap failure (Encoding: 0x756e6963) (FreeType error info: (38) invalid charmap handle).Setting the annotations to "Scientific Notation" and the Font to<br>"Monospace Symbol" or "Symbol", generates many copies of this error on the console: % IDLGRSRCDEST::DRAW: Select Charmap failure (Encoding: 0x756e6963) (FreeType error info: (38) invalid charmap handle). This probably has something to do with the IDL formatting commands that we've inserted into the annotation string. | Pat | 1 | Pat | related to 1422 | |
| 2006 | boundary normal coordinates. BugzID=59. | Pat | 1 | Pat | waiting to talk to Vassilis | |
| 2007 | Error msg for when timestamps of data do not match in tvector_rotate, tdotp, and tcrossp. | Pat | 1 | Pat | | |
| 2008 | Tplot auto scaling. BugzID=41. | Pat | 1 | Pat | | |
| 2143 | I noticed a small bug when I was running the ASI crib.  When you use the command 'ctime,/cut'  to generate the movies, it generates an error if you scroll out of bounds. Since everything continues to work functionally, I wouldn't think it is very high priority. | Pat | 1 | Pat | | |

| 2142 | I just found a crash that occurs when trying to export more than one data quantity at once. It looks very simple to fix, but I'm pretty certain that it went out with 5.1  Compiled module: ERROR_MESSAGE. Traceback Report from THM_UI_MANAGE_DATA_EVENT: THM_GUI_NEW_EVENT </home/pcruce/IDLWorkspace/themis/thm_ui_new/thm_gui_new.pro( 260)> THM_UI_MANAGE_DATA </home/pcruce/IDLWorkspace/themis/thm_ui_new/panels/thm_ui_manage_data.pro( 391)> XMANAGER </usr/local/itt/idl70/lib/xmanager.pro( 704)> XMANAGER_EVLOOP_REAL_MODAL </usr/local/itt/idl70/lib/xmanager.pro( 506)> THM_UI_MANAGE_DATA_EVENT </home/pcruce/IDLWorkspace/themis/thm_ui_new/panels/thm_ui_manage_data.pro( 131)> Last IDL Error: % Expression must be a scalar or 1 element array in this context: <BYTE Array[2]>. % Execution halted at: THM_UI_MANAGE_DATA_EVENT 241 | Pat | 2 | Pat | | |
|------|------|------|------|------|------|------|
| 2037 | J. Kissinger's cotrans routine (from GSE to SSE coordinates) | Vassilis | 2 | Pat | waiting for info from Vassilis | |
| 2009 | Be able to plot ASI & GMAG observatory positions and GOES data on the same plots that are generated by THEMIS Station keyword executing thm_crib_trace.pro | Pat | 2 | Pat | Wait until Vassilis comes back in July | |
| 2010 | Tplot enhanced crib - Davin should be involved and the cribs should not be too overwhelming.  Possibly multiple cribs by functions | Pat | 3 | Pat | waiting for Davin for info about crib sent to him | |
| 2011 | Christine's code to rotate the XY coord's along Earth direction was very effective. Also it was used by  others. We need to streamline it, and it's very similar to the others you've already written. | Pat | 3 | Pat | | |
| 2012 | GMAG L2 attributes error - from Pat (very low priority - revisit) | Pat | 3 | Pat | could not figure out task | |
| 2063 | Make A-E Index an L2 cdf. (tba) | Pat | 3 | Pat | | |
| 2066 | While generating an overview plot for probe c on 2009-6-3 I received a number of (~30-40) conversion errors (some where on line 400), get email from Aaaron or David | Pat | 3 | Pat | | |
| 2106 | Add the ability to  right-click on a variable in the widget-tree and display a popup with basic information about the quantity such as dimensions, range, or other meta data. | Pat | 4 | Pat | | |
| 1555 | A conversation here brought up what should probably be considered a feature.  If only minor grids are on, gaps appear in the grid lines, because the grids are not drawn on major ticks. After talking about it, we were thinking a better rule would be to only maintain those gaps if major grids are turned on. | Pat | 4 | Pat | | |
| 1563 | We were just griping about how long the Overview plots take to load, and I was thinking, what if the Overview Plot window, had a list of check boxes that would enable the user to turn off certain plots?  That way if they don't care about the AE index plot, they could turn it off and speed up the load of the rest of overview plots. Here's some more food for thought:  didn't we recently discuss the possibility of making an AE index CDF, and let the users download that instead of downloading all the data necessary to recalculate it client-side?  Another candidate for that sort of treatment might be the time intervals for slow survey, fast survey, particle burst, and wave burst -- that's another calculation that requires a large volume of data to be downloaded to produce a tiny product, but only a trivial amount of extra work if it's done on the server side. | Bryan/JimL | 4 | Pat | | |
| 1564 | tplot does not allow names with spaces or "* ? [ ] \" characters, we may want to exclude these characters from names, as well. Pretty much all of our text-input fields for variable names or suffixes don't check for these characters, but if we allow them into our variable names, it breaks all of our tplot interactions in the instances when these characters are in a name. Specifically, export to tplot doesn't work and most of our data processing operations don't work. | Pat | 4 | Pat | | |
| 1576 | I was thinking it would be nice if we enabled resize on the overview plot key window.   That way on larger monitors, users could extend the window so that they can see the whole key at once. | Pat | 4 | Pat | | |
| 1579 | When importing a variable with a valid 'V' component in its data struct, but no spec flag set in its meta data, the loaded data object fails to load the y-axis.  This should be fixed, as it ends up incorrectly loading certain spectral quantities. | Pat | 4 | Pat | | |
| 1121 | Overview plots - need to figure out how to handle memory issues with tplot variables. | Bryan | 4 | Pat | | |
| 1311 | Add capability to go into landscape mode (page pull down menu) | Pat | 4 | Pat | | 8 |

| 808 | IDL Format Code -currently have no way to insert a different font in the middle of a string (e.g. adding a symbol to a string in NewTimesRoman) | | 4 | Pat | | 40 |
|------|------|------|------|------|------|------|
| 1301 | The draw object takes a long time to render spectrograms when they are very zoomed in.  It should be possible to put a special case in that would make this work more quickly. | Pat | 4 | Pat | | |
| | | | | | | |
| **Misc** | | | | | | |
| 447 | Save THEMIS document:  Attempting to save to a read only file in Windows outputs the correct error message, but IDL crashes immediately afterwards. | | 1 | | IDL Error report to ITT | |