

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
<b>To be Assigned or Discussed</b>								
4617	popen - load a default color table in popen, or at least report a useful error message if none has been loaded.	5/1/2012	Lydia	?	?	<b>Jim M:</b> I use popen without calling thm_init all the time. I think a color table needs to be explicitly loaded before popen works. <b>Pat:</b> I recommend using loadct,39 not loadct,0 If you use color table zero, people will get black and white plots. Table 39 is the closest color table to the THEMIS color table that is included by default with IDL.		
4618	postscript file not correctly if plots overlapping	5/4/2012	Lydia / Aaron	?	?			
4619	crash in thm_sst_contamination_test	5/4/2012	Jim L	1	Pat			
4620								
4621								
4622								
<b>General</b>								
4607	?linux - bug in memory management with cdf libraries (after loading one cdf)	4/1/2012	Pat		Tami - SPDF	Discuss at 5/14 SPDF Meeting		
4600	Overview plots - web behaviour - browser will keep a copy of the image will not always reloaded	12/30/2011	Pat	0	Emmanuel?	<b>Emmanuel is currently looking into this task.</b>		
4501	Documentation links from THEMIS web site should be http: instead of ftp: links.	2/2/2012	Jim L	1	Emmanuel	<b>Let everyone know this has been done</b>		
4043	Paper on interdependencies of FGM and STATE Reprocessing	4/19/2010	Pat	1	Jim L	<b>Emmanuel Completed transfer to word and THEMIS format. Awaiting David's Review.</b>		
<b>Hannes</b>								
4153	maintenance of gmag stations "Exclude List"	10/11/2010	David	0	Hannes	Exclude List updated 7/11/11. <b>David 5/4/12: Has this been updated since?</b>		
4018a	New Calibration FGM parameters and spin axis offsets	5/10/2010	Hannes	1	Hannes	updated 4/3/12		
4080	Attitude Determination next few months	6/21/2010	Hannes	1	Hannes	<b>What is the status?</b>		
4472	Inter-spacecraft FGM calibration for ARTEMIS. <b>David 5/4/12: is this ready to be worked?</b>	1/4/2012	Vassilis	1	Hannes			
2074c	quality flag for FGM data. <b>David 5/4/12: is this ready to be worked?</b>		Vassilis	2	Hannes	quality flags for FGM data: Hannes talked to Ferdinand and suggests some flags in the state CDF: times when eclipse spin model adjustments were performed; times when spin fit & FGL data used to refine the eclipse spin model; times when V03 attitude corrections are available; times when spin fit timing had problems. Some of these flags already present in state CDF spin model variables. JWLL will document in L1 file definition document. Final item not so easy, since we have trouble even detecting the timing problem in spin fits. Keep task open, <b>Vassilis says we can come back to it when we have clarity on the spin fit timing.</b>		
<b>Aaron</b>								
4493	2D slices, 1.5D Pitch Angle Distributions - command line in progress; GUI?	1/23/2012	Vassilis	1	Aaron	Two options: Appx. vs Exact Method - will check with Vassilis		
4494	2D slices, 2D Pitch Angle Distributions - command line in progress; GUI?	1/23/2012	Vassilis	1	Aaron	Talk to Andrei and Xuzhi to test further		

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4498	sst contamination removal: excessive console output if no bins selected - <b>simple solution</b>	1/30/2012	Jim L	1	Aaron	Noticed in CL contamination test. May be hard to move that warning out of the loop. Could not reproduced. Jim L re-looking.	1-2 hrs	
4524	GUI error handling, must reset session to break out of error handling code in certain situations.	2/27/2012	Pat	1	Aaron	Error handling blocks should do catch, /cancel to prevent infinite loops. <b>In progress.</b>		
4544	If I have a list of panels, with the page locked to the top panel. If I remove the top panel it will lock to the panel at the bottom of the list instead of the next panel in the list. It makes more sense that it goes through the list in order when trying to lock, rather than jumping around.	3/14/2012	Pat	1	Aaron		2-4 hrs	
4530	When I despise thd_peim_flux on 2-10-12 I am left with data points that I expect should have been removed. All the spikes were surrounded by NaNs, but the those that consisted of more than one data point were removed while those that were only a single point were not. The values of the single-point spikes were comparable to those of the others. <b>Aaron 5/1/12:</b> I think the issue here is that the routines used to determine where spikes exist are not particularly good. It's hard to say how long it will take to gain a substantial improvement until I've looked into it a bit more.	3/1/2012	Aaron	1	Aaron	e.g. 3 and 4 were removed but 1 and 2 were not 1: 271376.90 NaN -2.4147143e+009 NaN NaN 2: NaN NaN 1.8829594e+009 NaN NaN 3: NaN NaN -2.5399129e+009 2.4763575e+009 NaN 4: NaN -2.5399129e+009 2.4763575e+009 NaN NaN	2-? Hrs	
<b>Ben</b>								
4616	Chile having download issues	4/26/2012	Marina Stepanova	0	Ben	<b>in progress - Chile folks are looking into</b>		
4458	Horae (rsync server for mirror sites) is dying and needs to be migrated to a VM Astrea.	12/8/2011	Jon L	0	Ben	<b>** In Progress **</b> Testing with UCLA; Once UCLA has completed the catch up rsync to test the UCLA data with the GUI doing loads, creating plots. Ben to ping Todd as to the status.		Y
4458a	migrate Japan mirror site	12/8/2011	Jon L	0	Ben			
4458b	migrate France mirror site	12/8/2011	Jon L	0	Ben			
4458c	migrate Chile mirror site	12/8/2011	Jon L	0	Ben			
3093	Automate processing of eclipse sunpulse data from FGM team	2/22/2010	Jim L	1	Ben			
3093c	integrate into L1 pipeline	2/22/2010	Jim L	1	Ben	<b>in progress - eta early next week to complete - use fgm to determine last eclipse</b>		
3093d	Reprocessing	2/22/2010	Jim L	1	Ben	<b>Reprocess L1 State Data into QA</b>		
3093e	Update Admin Guide	2/22/2010	Jim L	1	Ben			
<b>Cindy</b>								
4479	themis dependencies in ssl_general	1/9/2012	Davin	1	Cindy	dsl2gse, dsl2ssl, thm_load_goesmag, etc.		
4529	Remove items from GUI menus -- desensitized, cannot or probably will not implement these features.	3/14/2012	Team	2	Cindy	<b>final testing in progress</b>		
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)	7/1/2010	Vassilis	2	Cindy			
<b>Jim L</b>								
4613	Prevent Email Storms when data servers go down	4/25/2012	Jim L	1				

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4613a	Design database table to support logging and querying of error notifications	4/25/2012	Jim L	1	Jim L	<b>in progress</b>	1-2 hrs	
4365e	Ops team: Put FLATSAT into engineering mode, run the checksummed RAW command files, supplied by Jim L, to update the EEPROM. Dump a segment of EEPROM memory to show the effect of running the table update scripts. Take whatever steps necessary to copy the EEPROM tables into the SST memory (run the SST startup scripts?). Put FLATSAT back into science mode, acquire some data to verify that the ETC is still outputting properly formatted packets after the table change. Let Jim L know when FLATSAT telemetry has been dumped and where to find it.	4/11/2012	Vassilis	0	Ops Team	New tables uploaded to FLATSAT EEPROM, still in the process of verifying the upload. Need another memory dump (first one didn't dump all the modified tables). And it seems we forgot to update a checksum somewhere. Peter Harvey is on the case, and will let us know what we need to do to fix the problem. So there will be a few more rounds of the ops team running commands and dumping tables, with me processing the telemetry and handing it off to Jim M to verify.		
4034a2	thm_parts_moments update (spin moments mods)	11/22/2010	Vassilis	0	Jim L	initial simple way, final fix is to fix esa and sst 3D data structures. Probably a good idea to make a THEMIS-specific moment calculation routine, to avoid extensive changes to WIND code currently being used. Jim McFadden (as of 3/26/12) said he would review what Jim L sends him. <b>in progress and awaiting 3093d</b>		
<b>Jim M</b>								
4615	In looking at recent months' ARTEMIS ESA plasma flow velocity components via CDAWeb and LunaSOX, I'm seeing a lot of spikes (and short intervals of high fluctuation levels) separated by ~30 hours. They are more consistently in P2 data than in P1 data, but when they're in both, they're in near-coincidence. This is just looking at ESA Full Mode Ion Moment Data Quality (0: Good data <b>-David - Anything else for us to do?</b>	4/26/2012	Joe King	0	Jim M	<b>Jim M sent Email to Jim McFadden:</b> Joe King at GSFC noticed some unusual ESA behavior in the L2 data, for THEMIS B and C. See the attached plot for an example; typically spread apart by about 30 hours, there is some spiky behavior in the plasma velocity, and a density depression. It usually happens about 1 hour after a fast-survey burst interval, but in some cases (see the THB summary plots for april 15th, 19th and 20th) there is a burst interval right in the middle of the unusual data, as if we are trying to pick up hi resolution data in those depressions. The lack of counts appears in the raw data. Can I be safe in assuming that this is not a software glitch, but instead is some sort of science goal? <b>From Jim McFadden: Looks like lunar wake -- which is a key science goal for Artemis -- hence the fast survey and burst data.</b>		
4456	GET_MOMENT3D is bombing when it calls STORE_DATA.	3/7/2012	Peter	0	Jim M	will check with Davin		
4348	For Overview plot processing look at setting up multiple VM processors	8/24/2011	Pat	1	Jim M	<b>** In Progress ** - 2 processors for 5 days each</b>		
4365	reverse-engineer the process of updating the onboard tables that define the ESA and SST angle/energy modes. <b>Jim M: he process of creating the RAW commands will result in an IDL routine which has the same functionality as the "lost" code that Davin wrote in 2008. This will make future changes easier.</b>	9/8/2011	Vassilis	0	Jim M			

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4365a	Sanity check of current configuration: Jim and Davin will provide a range of ETC memory addresses to be validated. Ops team will request a memory dump of those locations, probably on one of the inner probes, via apid 407 memory dump packets. JWL (or maybe Ben S) will write a tool to stitch the memory dump packets back together into a memory image, which Jim and Davin can inspect to make sure we are working with the correct memory range. Hopefully this will be a targetted test -- a small range of addresses, rather than a complete memory dump (which would take extra care and error checking to interpret). If it's a small enough dump, we can possibly avoid having to write a tool and just look at the raw hex from a few 407 packets.	9/8/2011	Vassilis	0	Jim M			
4365b	ETC table upload utility: Davin may have something in his backups. If not, JWL will resurrect a "cmd2raw" utility we used during I&T to convert ASCII files of IDPU commands to a properly checksummed RAW command file, which the ops team can then upload to the probes. Jim McFadden and/or Davin will have to provide the list of IDPU commands.	9/8/2011	Vassilis	0	Jim M	Peter confirmed that updating the EEPROM tables is probably the way to go (as opposed to sending CDI commands to manipulate the SST memory directly). We went over some scripts the ops team was able to find for an earlier table update. They make heavy use of "raw hex" commands. Jim M can convert his binary table images into a similar file of raw commands, but without filling in the checksum fields. I can adapt some of the IDPU GSE code to read in a file of raw commands (provided by Jim M), fix the checksums, and output the properly checksummed commands. This is what we would give to the ops team in order to run the FLATSAT test. <b>** In Progress**</b>		
4365c	Produce a set of files with non-checksummed RAW commands implementing the desired EEPROM changes (and another set to revert the FLATSAT tables back to what they were before the experiment). (finish by early next week?)	4/11/2012	Vassilis	0	Jim M			
4365f	Inspect apid 407 memory dump packets to verify that EEPROM was updated successfully.	4/11/2012	Vassilis	0	Jim M	<b>verified sst angle maps loaded correctly; bombing IDPU - analysis in progress</b>		
4365g	<b>If all goes well:</b> Ops team: Run the EEPROM update script on one of the probes. Verify that the EEPROM update has effected the desired changes.	4/11/2012	Vassilis	0	Jim M, Jim L, Ops Team, Science Team			
4365h	<b>If something goes wrong on FLATSAT:</b> Diagnose what went wrong, restore EEPROM to what it was before the test, retry with corrected table update procedure.	4/11/2012	Vassilis	0	Jim M, Jim L, Ops Team			
<b>Lydia</b>								
4499	Greenland GMAG stations -- move data to standard location thg/l2/mag ?	1/31/2012	Tami	?	Lydia	Discuss at Spdf Meeting - Nothing to do at this time		
4481	New data product, AE index from THEMIS+std sites	1/9/2012	Vassilis	1	Lydia	<b>in progress - code completed awaiting for the Russian stations</b>		
4512	GUI plots: separate y-axis on right of panel	2/14/2012	Mark Wilber	1	Lydia	Significant changes to draw object; formerly QA128. <b>Not a high priority for Mark. Recommend not to do - too complex. Will send list of instructions to Mark and see if that helps.</b>		

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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	Lydia	Alberta changed web site - needs to be tested. Issue with file_http_copy		
4409	AE Stations: I am interested in including the "standard AE ground stations" i.e. the ones that go into the computation of the AE index - there are 12 - into the THEMIS pipeline. This is because we can then include them into the computation of our own pseudoAE. They include: FCC: Fort Churchill, LRV: Leirvorgur, a couple in Russia and one in Scandinavia etc. They should be available somehow. The ones in Russia have been made available through APL, and THEMIS has contributed to their refurbishment. I think we have established communication with APL's Kazue Takahashi and he said a couple of years ago that routine delivery of the Russian stations was impending. So by now they should be ready...I think he should be a good source of information about the other stations as well, if you cannot find them on the web by searching or at WDC Kyoto.	10/19/2011	Vassilis	2+	Lydia			
4409b	Dixon (DIK) (AARI, Russia)	10/19/2011	Vassilis	2+	Lydia	4/24/12: Vassilis received response and we are awaiting more detail		
4409l	Leirvorgur (LRV) (Iceland)	10/19/2011	Vassilis	2+	Lydia	Script to download data as we now have access the data. Processing to convert data to cdf in progress.		
<b>Pat</b>								
4460	Add New Routines from Lynn Wilson	3/22/2012	Vassilis	1	Pat	Spreadsheeted completed. Results to be reviewed on 5/14 when David returns (50% time)		
4458	Create a set of Benchmark Tests against IDL future versions (now for v8.2 beta). Run these tests and produce a report. In addition present this report to Exelis in a web conference with a demo of TDAS. Benchmark Tests should include tests for PC, Mac (leopard and lion) and Linux O/S.	3/21/2012	David	1	Pat	in progress (50% Time)		
4504	Updated FGM calibrations for solar array currents, ADC nonlinearity available?	2/3/2012	Pat	1	Pat	These usually come from David Fischer in Germany, separately from the cal files Hannes periodically updates. Pat sent email and David Fischer answered as follows on 4/25/12: For solar array calibration this is my fault. Uli and Karl-Heinz reminded me several times during the last months, but I was just too busy with MMS and Bepicolombo work. I will try to get it running within the next weeks.		
4470	Pre-deployment summary plot QA script	1/4/2012	Jim L	1	Pat	Check that summary plots are produced, and that they're roughly correct, before pushing updates into production.		

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4267c	Write code to remove proton and electron contamination from the electron and proton distributions using data and efficiencies from the F & O channels.	6/27/2011	Pat	1	Pat	Working on noise removal, etc. David 5/4/12: <b>Is it necessary.</b>		