

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
To be Assigned or Discussed								
4609								
4610								
4611								
4612								
4613								
4614								
v7.0 QA Tasks for Review with Vassilis								
4499	Greenland GMAG stations -- move data to standard location thg/l2/mag ?	1/31/2012	Tami					
4508	GUI xy axis: improve aesthetic ticks	2/9/2012	Pat			Formerly QA112, QA276. I'm not really happy with the way that the aesthetic ticks option performs if you request more ticks than the number of orders of magnitude visible on a log axis. For example, on a plot of 1-1000, it will correctly select major ticks at 10 & 100, but you can't make it put more than 2 major ticks on the axis with that range. It seems like it would make sense for it to be able to put major ticks at $10^{1.5}$ and $10^{2.5}$. Or if the ticks are not in scientific notation, maybe put the ticks at the nearest round number to $30(10^{1.47})$ and $300(10^{2.47})$.		
4510	Remove incorrect FGM range correction code from thm_cal_fit	2/10/2012	Jim L			FGM range correction is already applied in the L0->L1 processing. Code is disabled by hard-coding a variable value, but should be completely removed. Does this routine actually need the thx_fit_hed data it's trying to use?		
4512	GUI plots: separate y-axis on right of panel	2/14/2012	Mark Wilber			Significant changes to draw object; formerly QA128. Not a high priority for Mark.		
4518	FGM calibration updates for THA/2010-12-07 (residual spin tone in FGH data)	2/21/2012	Forrest /Vassilis		FGM team (revised calibration), Jim M (install cal file updates)	Insert time interval with corrected offsets into our calibration data. FGM team to determine corrections, Jim M to update data files. Verify that reprocessed data has spin tone removed, then notify Forrest Mozer that issue is fixed.		
General								
4607	?linux - bug in memory management with cdf libraries (after loading one cdf)	4/1/2012	Pat		Tami - SPDF			
4469	TDAS Users's Guide - click on TOC	3/28/2012	Lydia		Emmanuel?	For release with v7.10 if possible		
4600	Overview plots - web behaviour - browser will keep a copy of the image will not always reloaded	12/30/2011	Pat	0	Emmanuel?	Modify web server config to send cache control headers, so clients can detect stale files that need to be reloaded. David will check with Emmanuel.		
4464	All plug-ins for v7.10 - add a section to User's Guide for Plug-ins	3/22/2012	David	1	David	Discuss at the appropriate time what the content would be. Also add a link for VM on the Software Web Page or Developers web page?		
4043	Paper on interdependencies of FGM and STATE Reprocessing	4/19/2010	Pat	1	Jim L			
4453	Look into RBSP autoplot tool	12/5/2011	Mini-GEM		David	David to contact autoplot team		

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4506	GUI Getspec: Some regrid values yield all while plots (noticed in GUI getspec test suite for TDAS 7). If a re-write of thm_part_getspec this would be done as part of it.	2/8/2012	Aaron			In this case phi/theta values of 40x20, 45x20, and 64x20 yield plots but 50x20 and 49x20 do not. All energy fluxes appear normal. This is certainly something strange happening in thm_part_moments2, so we probably want to wait until after QA to fix it.		
Hannes								
4153	maintenance of gmag stations "Exclude List"	10/11/2010	David	0	Hannes	Exclude List updated 7/11/11		
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			
4472	Inter-spacecraft FGM calibration for ARTEMIS	1/4/2012	Vassilis	1	Hannes			
2074c	quality flag for FGM data		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, Vassilis says we can come back to it when we have clarity on the spin fit timing.		
4058	This is getting a bit out of hand I think. How about a configuration file? The software just reads keywords from a configuration file. With such a configuration file it is possible to set keywords automatically (for the scientists) but additionally it would give us the possibility to keep track of what the software does automatically. When I do calibrations I can then save the configuration file together with the results and not worry about the things that the software might have done automatically.	5/10/2010	Hannes	3	Hannes	Hannes sent out new version for review.		
Aaron								
4468	Ongoing - Review all commits by Davin, Peter, etc for impact to TDAS.	3/27/2012	David	0	Aaron	Provide weekly report and spreadsheet		
4493	2D slices, 1.5D Pitch Angle Distributions - command line in progress; GUI?	1/23/2012	Vassilis	1	Aaron	We need collapsed BV plots. I.e., we often do not care about gyrovelocity direction but only pitch angle direction. The electrons especially (but sometime ions too) are gyrotropic. Then we can increase the counting statistics if all the look directions with the same pitch angle (but different phases) are averaged into a single point. in progress eta 4/16-4/20		

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4494	2D slices, 2D Pitch Angle Distributions - command line in progress; GUI?	1/23/2012	Vassilis	1	Aaron	We sometimes need cuts in a very special direction: B-M, 2D cut, where the P direction is normal to a specific, user-specified N direction. The N direction needs to be specified by the user as (1,0,0) or (0,0,1) etc. Then the cut would be made such that M is along the NxB direction, such that M,N,B form an orthogonal system. In progress		
4498	sst contamination removal: excessive console output if no bins selected - simple solution	1/30/2012	Jim L	1	Aaron	Noticed in CL contamination test. May be hard to move that warning out of the loop.	1 hr	
4521	GUI getspec: issues when setting phi limits and starting phi at same time	2/8/2012	Aaron	1	Aaron	I produced two phi plots with the phi limits set to 45 - 180; the second plot also had the start angle set to 90 degrees. That plot begins at 90 degrees and appears as it should until just past 160 degrees at which point the remainder appears to be 'smeared' and ends at a maximum of ~440. Because of this it is also hard to tell if it looped back to the data between 45-90 correctly.		
4530	When I despiked 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.	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		
4544	If I have a list of panels, with the page locked to the top panel. If 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			
4536	GUI Slices: Step 8 g) Annotation precision only changes z axis labels (not x, y) . Is that as intended?	3/1/2012	Lydia	1	Aaron	Formerly QA190		
4543	Axis options: With "bound autoscaling" or "floating center w/ span", allow units other than seconds for a time axis.	3/14/2012	Pat	2	Aaron	Floating center/span not very useful; probably exists only because SPLASH had it. Perhaps it could be removed?		
4529	Remove items from GUI menus -- desensitized, cannot or probably will not implement these features.			2	Aaron	print preview, print multiple files, undo/redo, track additional variables		
4505	Add a TDAS routine to do 1-d cuts - when ready to work send Aaron Bennenman an email for clarity of task and then review at the SW meeting again with Vassilis.	2/6/2012	Aaron Breneman			You could obtain a 1D cut of a slice by aligning the custom orientation vector (slice_orient keyword) such that the desired cut is along the x or y axis. The data could then be pulled directly from the array returned by thm_part_slice2d via the 'part_slice' keyword. This returns an R x R array containing the interpolated slice data (R=resolution). The x & y axis values for the array are returned in the 'xgrid' and 'ygrid' keywords.		
519	We should extend our data model to support 3-dimensional distributions and 3-dimensional image data. This will entail modifications to load widgets, the loaded data object, the tree widget, the data processing widgets, and the addition of a means to draw	10/17/2011	Vassilis	3	Aaron			
267	The Layout panel doesn't allow shift selection in the panel portion of the widget.		Vassilis	3	Aaron	discuss at software meeting		

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4340	Anything you can do to accelerate the geometric method?	8/22/2011	Vassilis	3	Aaron	on hold		
4314d	combination of ESA and SST data could only be done in the Geometric mode. Would be great if it could be done in other modes as well.	8/11/2011	Xuzhi	4	Aaron	on hold	1 hr	
2013w	Integrate our own slicer3.pro gui with regular 2-D slice plots.		Vassilis	4	Aaron	on hold	3 days	
Ben								
4458	Horaes (rsync server for mirror sites) is dying and needs to be migrated to a VM Astrea.	12/8/2011	Jon L	0	Ben	** In Progress ** awaiting Todd King @UCLA for IP addresses and ssh-key. Will start rsync testing once remote access has been established.		Y
3093	Automate processing of eclipse sunpulse data from FGM team	2/22/2010	Jim L	1	Ben	In progress. Reprocess L1 State Data. Apply eclipse sunpulse corrections to L1 State CDFs - in progress. Will proceed with as-is version of corrections, and once automated, will extend/refine them.		
3093b	apply eclipse sunpulse correction to L1 State data	2/22/2010	Jim L	1	Ben			
3093c	integrate into L1 pipeline	2/22/2010	Jim L	1	Ben			
4501	Documentation links from THEMIS web site should be http: instead of ftp: links.	2/2/2012	Jim L	1	Ben	Mac Safari users had trouble downloading users guide, etc. during a TDAS training session. FTP links not firewall-friendly.		
4503	thm_load_fgm does not throw error for invalid probe, only prints a message...should this be a more severe error?	2/3/2012	Ben	1+	Ben	Probably the case for all themis load routines. Not covered in any CL test scripts as far as I can tell. Ben 4/13/2012: thm_load_fgm to throw an error on invalid input - Implemented a method, but broke several QA command-line test scripts. Need to discuss it with the other developers during Monday's SW meeting.		
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		Jim L	2	Ben	Save v7.0 templates and saved files.		
4455	Developer's Guide - Plug in Section - How to do, QA, Suites, Scripts, watch out for (like erg)	3/21/2012	Jim L	2	Ben	in progress		
4532	Developer's guide update re: "touched" properties, standard way of tracking which settings were changed at user's request.	2/27/2012	Pat	2	Ben	with 4455		
4200	Yuri has generated a 3 parameters for the THEMIS spacecraft L,L*,Mlat. These parameters are very useful scientifically. The task would be to archive these parameters in CDF and add a load routine in TDAS to read them. Currently, the data will be made available to us by Yuri via tab separated ascii files.	1/19/2011	Yuri Shprits	2	Ben	part of the state cdf On hold, after QA.		
4214	THEMIS Pipeline proof of concept regression tests					On hold, after QA.		
4214e	GMAG	3/23/2011	Jim L	2	Ben			
4214f	AE Index	3/23/2011	Jim L	2	Ben			
4214g	ASI	3/23/2011	Jim L	2	Ben			
4214h	mosaics	3/23/2011	Jim L	2	Ben			
4214i	summary plots	3/23/2011	Jim L	2	Ben			

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4135	Now that the L1 ESA/SST/MOM reprocessing is underway, these CDFs will soon contain the full ESA and SST configuration words, in addition to the solar wind flags, sweep modes, and so forth. With the full configuration data available, if someone wants to use a property of these instrument configurations that's not already present as a L1 variable, we don't need to reprocess L1 to add it -- we just write a little more code for TDAS, to extract the new attribute from the configuration data that's already present.	9/10/2010	Jim L	3	Ben	On hold, after QA.		
4135a	Write some TDAS routines that take an apid and a configuration word, and return a structure with all the relevant properties of that configuration. This is basically reimplementing some logic that's already in the L0->L1 processing code (written in C). If anyone ever needs other attributes of the instrument configuration (for example: the angle maps corresponding to each configuration), we would update these routines to return the additional information.	9/10/2010	Jim L	3	Ben	On hold, after QA.		
4135b	In the load and/or calibration routines for ESA, SST, MOM: rather than using the ESA solar wind flags and sweep mode from the L1 CDFs, use the ESA full configuration instead (which is present in all three L1 types, for convenience), and use the routines from 4135a to extract the solar wind flags, sweep mode, and any other useful attributes. I think SST does not have any configuration flags similar to the ESA quantities (there's the attenuator status, but that's separate from the instrument configuration word), but it needs them in the future, they should be handled the same way as ESA (extract from SST configuration word instead of adding L1 variables). I can do this, but if the routines from part (a) are well-documented, any of us could probably do this part.	9/10/2010	Jim L	3	Ben	On hold, after QA.	2-4 hrs	
2078	bau_sunpulse_met assumes x86 endiannes (BugzID=13)		Vassilis	3	Ben	On hold, after QA.		
4027b	Reprocessing GOES Data	4/5/2010	Tami - SPDF	3	Ben	Reprocessing on hold until Howard Singer delivers another batch of binary GOES data files.		
Cindy								
4489	TDAS cotrans to magnetic coordinates	1/12/2012	Cindy	2	Cindy	completed yet awaiting answer to 4608		
4608	tvector rotate mods	4/9/2012	Cindy	1	Cindy	completed		
4465	neutral_sheets - add to TDAS	3/26/2012	Vassilis	2	Cindy	** In progress **		
4495	Cotrans routines not checking st_type to warn about cotransing velocities	1/21/2012	Jim L	2	Cindy			
4608	GEO and Mag into GUI load panels					talk to Vassilis, Pat and Jim L		
Jim L								
4535	Onboard moments (peim velocity X-component) incorrect, 2010-12-07, THA, 14:59:10 through 14:59:40. Ground-computed moments from burst data look OK.	3/5/2012	Forrest Mozer	0	Jim L	VX turns positive, should be negative throughout. Fluxes are large. May be overflow in onboard calculations (can't fix may be detectable), or error in lossy moment compression (can fix going forward, via FSW patch), or error in decompression (can fix retroactively). Probably not a TDAS problem. Forrest wants me to hold off any fixes/reprocessing while he looks for other cases where this		
4365d	Write a small program to insert correct checksums into the files Jim M will produce. (Should be finished by the time Jim M delivers the RAW command scripts.)	4/11/2012	Vassilis	0	Jim L			

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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			
4365f	Process FLATSAT data to L0 packets/L1 CDFs, verify properly formatted SST data after the table update. (Note: data will be all zeroes, no way to test the sun contamination removal on FLATSAT).	4/11/2012	Vassilis	0	Jim L			
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.		
4326b	Then for Particles and Spin Fits	8/18/2011	Vassilis	0	Jim L	in progress - dependent on 4034a2. On hold, after QA.		
4326c	reprocessed	8/18/2011	Vassilis	0	Jim L	on hold 3093 is done (task 3093 assigned to Ben)	3-4 weeks depending on pri zero tasks	
4142	issue with FGS processing - timestamps	9/30/2010	Vassilis	0	Jim L	not trivial		
2266	Timing of Spin Fit data	10/16/2009	Jim McFadden	0	Jim L	see 4142		
4451	operating the particle instruments in "accumulate" rather than "snapshot" mode. So we'd be getting into some unexplored territory. The time tagging code in the L0->L1 particle distribution processing would need some slight modifications to support "accumulate" mode. The ESA load routines use the L0 packets directly, and probably also assume "snapshot" mode, so that's another potential set of required modifications. I wouldn't be surprised if the ESA and SST calibration code also assumes snapshot mode. It would need to be tested with real data (since we have no way to generate a realistic particle data stream on FLATSAT).	12/1/2011	Vassilis	1	Jim L			
4451a	accumulate mode	12/1/2011	Vassilis	0	Jim L	flatsat testing I0-I1 mods; on hold		
4451b	tdas mods - if accumulate mode approved discuss at S/W meeting	12/1/2011	Vassilis	?	?			
4476	Discuss thmsoc_dp_current deployment process, avoid unintended updates from trunk	1/5/2012	Jim L,David	1	Jim L	After QA, review CDF "software version" requirement with SPDF.	1 day	
4479	themis dependencies in ssl_general	1/9/2012	Davin	1	Jim L	dsl2gse, dsl2ssl, thm_load_goesmag, etc. After TDAS 7,		
4465	Diagnose, repair? Spikes in FGS data.	12/14/2011	Vassilis	1	Jim L	No code changes required. Document on web site (anomalies/watch out fors) as something to be aware of		

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4468	Modify ESA packet loading code to use standard spinmodel routines rather than deprecated ASCII files.		Jim L	1	Jim L	After TDAS 7.0.		
4430	crib for eclipse despinning code for spin fits and moments	11/9/2011	Jim L	1	Jim L	on hold- demo exists; dependent on 3093		
2074c	quality flag for FGM data -Jim L perform analysis, define task - someone else to do development		Vassilis	1	Jim L	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. JWL will document in L1 file definition document.	1-3 days	
4034a3	awaiting feedback and performing analysis	11/22/2010	Vassilis	1	Jim L	Tips of the Month at some point?		
4236	Ferdinand P. suggests that we make available a diagnostic quantity produced by the eclipse spin modeling procedure. Add "phase" diagnostic quantity (from eclipse spin modeling process) to L1 STATE CDF, to give end users a sense of the expected angular error in the eclipse spin model.	5/23/2011	Ferdinand	1	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)	before the millenium started and when bugzilla's roam the free world	Vassilis	1	Jim L	Hard for SPDF to deal with, with their plotting tools - review priority with Vassilis; Check again with John Bonnel regarding timing differences between fgm and efi spin fits		
4030	cross-check SST psir6 and psif data types for excess counts in psir6	4/8/2010	Jim McFadden	1	Jim L	Jim L talked to Davin and sounds like we can shut the data off. Jim L will send email on the time saved by shutting this off.	4-5 days	
4030b	Correct Existing Data	5/17/2010	Jim McFadden	1	Jim L	4030a prerequisite		
4030c	If scripts change - make changes to processing scripts	5/17/2010	Jim Lewis	1	Jim L	4030a prerequisite		
4070	"Add support to thm_cotrans, ssl2gse, and ssl2dsl for /pseudo_dsl keyword. If keyword is present, look for and apply	6/1/2010	Jim L	1	Jim L	thm_load_fit and thm_load_mom, add keyword. In progress - Will review code Davin checked-in concerning tensor		
QA110	as you know we have a few folks here in our SPDF group who are using the THEMIS-B and C data for a lunar project. They have	2/7/2011	Tami	1	Jim L	Web Site - instruments will have a web page with "Sources of Data Anomalies". The first one being the ESA issue		
4286	Create and maintain a list of FBK and FFT (and possibly other?) configuration parameters versus time, to be used by other researchers to located time intervals containing data that was acquired in a particular configuration. Examples (totally made up):	7/15/2011	SPDF - Jim L	2+	Jim L	phase 1 - list for next Tips of the month, phase 2 - cdf or web page: To be done before the Map in early 2013		
4301	"bad" themis thg l2 files - instrument files; L0->L1 processing produces incomplete/empty CDFs	8/1/2011	Tami	2	Jim L	one fixed - one priority 2		
2248	once in a while (maybe 10-20 occurrences per probe during the entire mission), the FGM range doesn't change on all three axes at once:	9/10/2009	Jim L	2	Jim L			
4022	Update L1 master cdfs to support SPDF hosting	3/25/2010	David	3+	Jim L	I think 4022 is a an end-of-mission task: basically clean up all the L1 CDFs, so they are fully ISTP compliant and as		
4040	Spinfits - separate E&B timestamps?	4/15/2010	Jim L	3	Jim L	SPDF has issue creating plots on the L1 data with their software	2 hrs	

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4046	either thm_load_fit or the GUI code that calls thm_load_fit should split the data into separate tplot variables for E and B, before importing them into the GUI data model. I think thm_load_fit already does something like this. See task 4040	4/23/2010	Pat	3	Jim L	Jim M 4/23: thm_load_fit also splits into efit and bfit variables, so unless you need to look at raw bytes, the 'fit' datatype is not needed. Pat: Agreed. Short term, excluding the data type from the GUI seems like an easy solution.		
2082a	Spin modeling during shadows BugZid=43		Vassilis	3	Hannes	Jim L to write routine. Hannes send info.		
2038	STATE Web Page (s)		Vassilis	3	Jim L	review web pages		
2039	bad timing sun pulse times (early January 2009)		Vassilis	3	Jim L	Clarification needed		
2040	L1 Data Processing History Info: SCM, EFI, STATE		Vassilis	3	Jim L	Ben???		
2043	Refactor repeated CDF library code in CDF processing tools BugZid=50		Vassilis	3	Jim L			
2077	Non Monotonic timestamps. BugzID=72		Vassilis	3	Jim L			
2047	task 2047 in my name: "Seperate E and B timestamps for spin fits", which is also a change to the L1 FIT master CDF and associated TDAS code. But unlike the spacecraft potential enhancement (which only adds new CDF variables, and is more-or-less backward compatible), 2047 would require us to bump the L1 FIT CDF version number to V02, and produce both V01 and V02 for a while, so users of TDAS 5.20 and earlier will still be able to load L1 FIT data. So I'm not sure whether the spacecraft potential task should include 2047, or not.	3/2/2010	Jim L	4+	Jim L			
4075	describe the FBK data type, time tag specified to correspond to the beginning of the time interval of the data that went into the FBK data, the middle, or the end, or is that unspecified, and what's happening here is that the time tagging is being changed in year 3+ of the mission - in the L1 file definition document, at least, does not define the time-tagging conventions to this level of detail.	6/11/2010	John Bonnell	4	Jim L			
4023	Before EOM reprocess L1 cdf's due to master cdf changes for SPDF	3/25/2010	David	4	Jim L			
2080	Phantom packets" cause non-monotonic distribution times. BugzID=25, low priority.		Vassilis	4	Jim L			
2081	Evaluate CDF compression algorithms BugZid=81		Vassilis	4	Jim L			
2083	Add "last processed" time to L1 (and L2?) CDFs BugZid=115		Vassilis	4	Jim L			
4097	cdf's with MD5 checksum	7/19/2010	Jim L	4	Jim L	Jim L to send email with subtasks and estimates		
Jim M								
4456	GET_MOMENT3D is bombing when it calls STORE_DATA.	3/7/2012	Peter	0	Jim M	sent new version to Peter awaiting and will check with Davin		
4348	For Overview plot processing look at setting up muliple VM processors	8/24/2011	Pat	1	Jim M	** In Progress **		
4365	reverse-engineer the process of updating the onboard tables that define the ESA and SST angle/energy modes.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.	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 targeted 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. ** In Progress**		
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			
4365g	If all goes well: 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	If something goes wrong on FLATSAT: 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			
4152	verify the location of the sun-contaminated bins for each spacecraft and any change in location over time(they should change very slowly if at all). They would then re-activate the sun contamination masking. It was previously disabled because the masking was originally in the from place. Davin said that he wants to create the new configuration files that would be uploaded to the spacecraft.	10/8/2010	Vassilis and Davin	0	Jim M	Persons that can provide information are: Davin, Deron Pease/McDonald, Michael Luldham and Robert Abiad. See task 4365 (same process)		

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4152a	change the SST tables to mask view directions that are affected by the sun. We need to do this for the reduced distributions only. If it can be done for the moments too it would be great. WE need to find the masking tables that were input before in 2007 and rescinded sometime in 2008 - but the actual bins that require masking are different than before.	10/20/2011	Vassilis	0	Jim M			
4152b	change the ESA tables such that the minimum magnetospheric electron energy becomes lower (about 3eV, or lower). McFadden can specify the lower energy	10/20/2011	Vassilis	0	Jim M			
4152c	change the ESA tables such that electrons and ions can be changed separately into magnetospheric and solar wind modes.	10/20/2011	Vassilis	0	Jim M			
2283b	There is another aspect to this problem. Dead-time corrections are severe for ion ESA SW data and there are no dead-time corrections for onboard moments. Some algorithm will have to be developed that does this correction after the fact. Davin developed an algorithm like this for Wind 3DP. That algorithm may not work directly due to differences in energy sweeps, but something like it could be developed for THEMIS. Davin and I can provide some advice and direction. Similarly electron onboard moments in the SW may also need some corrections -- this should also be worked out at the same time. **Send old code to Pat **	11/2/2009	Jim Mcfadden	1	Jim M	Jim McFadden showed me what he had in mind for improving the corrections for ground-processed moments. This involves calculating the dead-time correction based on a higher resolution energy grid, with 4 different points per output energy channel. In progress: Jim M 8/26/11: Thanks for looking at this. It also seems the the pressure tensor has some interesting spikes due to the dead-time correction, while the scalar quantities ssme to be more stable 9/23/11: Will ping Jim Mcfadden. May need additional code to convert from fluxes back to raw counts. When code written, will discuss with J McF.		
4312	Quality flags for efi are wrong including electric field offsets in computation. On hold until Michael Hartinger sorts out.	8/8/2011	Vassilis	1	Jim M	discuss with Vassilis		
4233	Angular Correction for particle data - use Jim McFadden's code if available	1/9/2011	Vassilis	2	Jim M			
4241	Dieter and I have tested the variables, there are two that don't seem to have data for the mission, and their catdesc's seem to indicate that they won't... so can we "turn these off", or is there a plan to use them in the future? EFS_Q_MAG (Data Quality Parameter: set to NaN for EFS, as there is no good measure of data quality.) EFS_Q_PHA (Data Quality Parameter: Set to NaN, as there is no good way to measure data quality for EFS data.)	6/6/2011	Tami Kovalick	2	Jim M	They are empty at the moment, by design -- we may have a use for them in the future. Nothing needs to be done with SPDF. Look into EFS_Q_PHA and check with John Bonnell about the future.		
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)		Vassilis	2	Jim M	not allow velocity to go bad		
2224	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			

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2035	Split L1 ESA (using Thomas's routine) in master ESA data cdf		Vassilis	2	Jim M	On Hold - awaiting Jim McFadden release: Then send David Sub Task List; 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).		
4208a	Enhanced MOM Instrument Web Pages	3/5/2010	David	2	Jim M	Talked to David first.		
4412	Out of memory problem loading HSK data for long timespan	10/28/2001	John Bonnell	3	Jim M	sent John diagnostic code to run; from Jim to John 11-2-11: So far, The program never seems to use more than 400Mbytes of memory, at least as far as I can tell? Can you run the attached version and send the IDL output to me, in a journal file? It just has a couple of statements included, help, /memory, which checks how much memory is being used, and has been used, and get_max_memblock2, which is a program that we		
4003	Document: ESA File and Calibration Processing	3/5/2010	David	3	Jim M			
2091	Once Jim McFadden completes his mods for n_3d_new_3 reprocess L2 cdf's - entire mission		Vassilis	3	Jim M			
2055	ESA L2 from L1 (not packets) - create L2 and test thoroughly, then reprocess ESA		Vassilis	3	Jim M	On Hold; awaiting Jim L to split L1 into master cdf		
4466	We could make the limit to ESA data time intervals (issue #3) a keyword, but I'll still keep the default value to me much larger than 40000	3/22/2012	Jim M	3	Jim M	Jim McFadden suggestion		
2093	AE Indexes Issue Jan 8-12, keyograms Jan 12-13, Stripes-Vassilis: minor nuisance		Vassilis	4	Jim M			
2095	Mosaic Processing - permanent script needed		Vassilis	4	Jim M			
2100d	DC offset between 4sdo and 2sdo in boom plane		John Bonnell	4	Jim M	Which is better? Assigned to J. B. (low priority).		
2100h	Try to track down frequency scaling problem in DPWRSPC (dlimit setting? Compare to old plots?).		John Bonnell	4	Jim M	On Hold - low priority		
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	4	Jim M			
2283b	There is another aspect to this problem. Dead-time corrections are severe for ion ESA SW data and there are no dead-time corrections for onboard moments. Some algorithm will have to be developed that does this correction after the fact. Davin developed an algorithm like this for Wind 3DP. That algorithm may not work directly due to differences in energy sweeps, but something like it could be developed for THEMIS. Davin and I can provide some advice and direction. Similarly electron onboard moments in the SW may also need some corrections -- this should also be worked out at the same time. **Send old code to Pat **	11/2/2009	Jim Mcfadden	4	Jim M	Jim McFadden showed me what he had in mind for improving the corrections for ground-processed moments. This involves calculating the dead-time correction based on a higher resolution energy grid, with 4 different points per output energy channel. In progress: Jim M 8/26/11: Thanks for looking at this. It also seems the the pressure tensor has some interesting spikes due to the dead-time correction, while the scalar quantities ssme to be more stable. 9/23/11: Will ping Jim Mcfadden. May need additional code to convert from fluxes back to raw counts. When code written, will discuss with J McF. 4/10/2012: As per Vassilis reduce priority and put on hold indefinitely.		
Lydia								

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4358	Every 6 months check that the UCLA Mag Cal have not changed.	9/6/2011	David	0	Lydia	Next October 2012		
4481	New data product, AE index from THEMIS+std sites	1/9/2012	Vassilis	1	Lydia	in progress - creating the ae index		
4497	Need axis titles for the GUI. This is a pretty big limitation insofar as almost all plots end up combining component labels with axis titles. (Often labels on one side and axis titles on the other.)	1/27/2012	Pat	1.5	Lydia			
4312	Quality flags for efi are wrong including electric field offsets in computation.	8/8/2011	Vassilis	1	Lydia	Hold until June - then talk to Michael Hartinger		
4241	Dieter and I have tested the variables, there are two that don't seem to have data for the mission, and their catdesc's seem to indicate that they won't... so can we "turn these off", or is there a plan to use them in the future? EFS_Q_MAG (Data Quality Parameter: set to NaN for EFS, as there is no good measure of data quality.) EFS_Q_PHA (Data Quality Parameter: Set to NaN, as there is no good way to measure data quality for EFS data.)	6/6/2011	Tami Kovalick	2	Lydia	They are empty at the moment, by design -- we may have a use for them in the future. Nothing needs to be done with SPDF. Look into EFS_Q_PHA and check with John Bonnell about the future. in conjunction with Task 4312. Only with efi data.		
3086	add MACCS gmag data from 2007 to our data archive. We already have MACCS data for some years and a process that automatically downloads it/converts to CDF. So the task would involve finding missing files from 2007 and feeding them into our pre-existing processing framework. It should be pretty straightforward, but probably non-trivial because of learning curve/unexpected details.	2/19/2010	James Weygand	2	Lydia	They are moving all the data to another server - on hold. Once they have completed the move we can get 2007 data and we will update scripts to handle the new data location. Pinged 3/26/12.		
2062	Alberta - At the moment the data files are from Dawson (daws), Churchill (fchu), Island Lake (isl) 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			
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	Lydia: Do we want to be mirroring the data for the sites and generating CDFs as we do for the other external magnetometer sites? If so, we would need to determine where the data could be retrieved from, obtain permission to mirror it, and write download and conversion to CDF scripts. This would be a separate task for each of the data suppliers (unless there is some existing site that has the data from multiple sources). The 12 stations that are used for the calculation of the AE indices seem to be (according to Kyoto WDC): listed in tasks 4409a-4409m.		

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4409b	Dixon (DIK) (AARI, Russia)	10/19/2011	Vassilis	2+	Lydia	Masahito Nose replied that we should contact AARI directly. Contacted Oleg Troshichev at AARI on Jan 20th. Have not heard anything back from Oleg Troshichev.		
4409c	Cape Chelyuskin (CCS) (AARI, Russia)	10/19/2011	Vassilis	2+	Lydia	see 4409b		
4409d	Tixie Bay (TIK) (AARI, Russia)	10/19/2011	Vassilis	2+	Lydia	see 4409b		
4409e	Cape Wellen (CWE) - closed, replaced with Pebek (?) (AARI, Russia)	10/19/2011	Vassilis	2+	Lydia	see 4409b		
4409l	Leirvorgur (LRV) (Iceland)	10/19/2011	Vassilis	2+	Lydia	They have replied that we can make the data available,		
4409m	SNKQ	10/19/2011	Vassilis	2+	Lydia	SNKQ is confirmed to be the same site as SNK. We already get this data. There seems to be an issue with data availability at the moment, but this is a problem at their end. Nothing needs to be done. We gat data from Alberta.		
4409p	Update Online accesible charts	10/19/2011	Vassilis	2+	Lydia			
778b	Need capability to read in ASCII, CDF?, . IDL has a built in widget to specify ASCII formats.	11/21/2011	Oldie	2	Lydia	On hold. Also assigned to Pat. See Vassilis's files for Ascii and cdf's only analysis		
4298	the slices code should probably have a keyword to use the new SST calibrations.	7/27/2011	Pat	2	Lydia	On hold till the SST calibrations have found wider use.		
4313	While on the telecon with Alberta, I was looking at the IDL documentation for their built in http download object. It actually makes it look like the http authentication, with username and password would not be too difficult. Since this keeps coming up, we might want to consider dedicating a few hours of programming time to see how hard it actually is to do authenticated downloads. If it turns out not to be too hard, it would probably give us the capability to extend our system to a lo more types of data.	8/11/2011	Pat	2	Lydia	when the need arises - on hold		
4432	ASI FAQ - ask Harald if adding User Questions and his answers	11/10/2011	David	3	Lydia			
4431	GMAG Web Page Enhancements - FAQ's, etc	11/10/2011	David	3	Lydia			
4042	Script to run every two weeks to runs IDL TDAS and checks if a file can be loaded from THEMIS SPDF file (s)	4/19/2010	Pat	3	Lydia	see Pat		
4210	Modeling SST fluxes	3/12/2011	Vassilis	3	Lydia	on hold		
2030	upgrade thm_load to work with probe assignments		Vassilis	3	Lydia			
2031	move functionality of thm_load_state2 into thm_load_state and delete thm_load_state2		Vassilis	3	Lydia			
2032	Multiple enhancements concerning keywords, valid_names and thm_load routines		Vassilis	3	Lydia			

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492	Work with Harald to be able to load a reasonable amount of ASI data and add tools into Analysis and DP to process this data.	10/17/2011	Vassilis	3	Lydia			
519	We should extend our data model to support 3-dimensional distributions and 3-dimensional image data. This will entail modifications to load widgets, the loaded data object, the tree widget, the data processing widgets, and the addition of a means to draw	10/17/2011	Vassilis	3	Lydia			
Pat								
4471	Support TT2000 CDF time format in cdf2tplot	1/4/2012	RBSP	1	Pat	should complete by May 2012; When data is imported from cdf with tt2000 times, they'll be converted to unleaped unix times. This makes comparison to other missions using unix timestamps easy. We will offer a configuration option so that users can choose to leave the leap seconds, in if they want, but we'll still use the same time representation: double precision second since 1970. This will require a change to time_double, similar to the change that was made to support CDF_EPOCH16, it may also require a change to cdf_info_to_tplot. I know that this is very low level code, so I'll put priority on keeping the changes as small as possible, and maintaining backwards compatibility. **In Progress** cdf with leap seconds from SPDF in testing		
4477	Reprocess SLP data for 2012 leap second	1/9/2012	Jim L	1	Pat	Pre-2012 files also need reprocessing for update to ICY/SPICE kernel. ** In Progress **		
4460	Add New Routines from Lynn Wilson	3/22/2012	Vassilis	1	Pat	also lasp code? Ask Vassilis (50% time)		
4458	Create a set of Benchmark Tests against IDL future versions (nov 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	50% Time		
4504	Updated FGM calibrations for solar array currents, ADC nonlinearity available? Talk to Ferdinand.	2/3/2012	Pat	1	Pat	These usually come from David Fischer in Germany, separately from the cal files Hannes periodically updates.		
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. After QA.		
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. Hold until after QA, if necessary.		
4287	Switching SST Load routines to thm_sst_load2 for SST calibrated data	7/15/2011	Pat	1	Pat	on hold		
4603	make new SST Cal standard	3/22/2012	Vassilis	1	Pat	Revisit in July ** on hold **		
4464	mods for file_retrieve, determine remote & local parts from URL returned by query from metadata DB	12/12/2011	IUGONET	2	Pat	item 3.4.2 from presentation (Hold until after QA)		
4463	file_http_copy support for proxy servers	12/12/2011	IUGONET	2	Pat	item 3.3 from presentation (Hold until after QA)		
778a	Need capability to read in ASCII, CDF?, . IDL has a built in widget to specify ASCII formats.	11/21/2011	Oldie	2	Pat	See Vassilis's files for Ascii and cdf's only analysis. Also assigned to Lydia. On hold.		
2060	L2 cdf Quality Flags: for SST		Vassilis	2	Pat	On hold, after QA		
4002	Document: SST File and Calibration Processing	3/5/2010	David	2	Pat	David to ask Davin for ppt document corresponding to pdf on ftp site concerning SST		

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4208b	Enhanced SST Instrument Web Pages	3/5/2010	David	2	Pat	Talked to David first.		
803	Would be nice to have a way to move different panels from one window to another	11/22/2011	Oldie	3	Pat	sort how level of effort to accomplish. On hold, after QA		
3063	40. CL tplot options -- setposition test plots all look the same	1/15/2010	Pat	4	Pat	Long-standing tplot bug, may not ever be fixed		
IDL and Mac OS "Lion" compatibility issues								
QA008	Lion -- IDL 7 crashes when trying to add directory to the IDL path in IDLDE	1/19/2012	Lydia		Pat	Can work around by setting IDL_PATH externally		
QA010	Lion: IDL 6.4 (PowerPC application) not supported	1/20/2012	Lydia		Pat	But there's a non-PowerPC version that works.		
4388	I was having some trouble getting the mouse click feature to work with the various tplot functions in TDAS after upgrading to a new system running the Lion OS. After poking around a bit it looks like there are a couple X11 settings that need to be changed to allow clicking of tplot windows (such as when using the tlimit command). In X11 preferences I enabled the following: Input: Emulate three button mouse Windows: Click-through Inactive Windows After enabling those I was able to click on tplot windows again. Just passing along the info in case there are others who may experience this issue.	9/30/2011	Justin Lee - UCLA	1		Pat: This looks different than the instructions that we have in the quick reference guide. I think that we may need a new set of instructions for newer macs. Lydia: Justin's workaround seems OK. Add to quick reference guide and users guide.		
QA175	GUI Export to image: EPS plots sometimes look a little different than on-screen or bitmap output for plots with rapid changes	2/29/2012	Lydia		Pat	Small wiggles in bitmap plot exaggerated in EPS output, all OS-es. Report to IDL support, may need to send TDAS zip file and instructions to reproduce.		
QA228	I've been having some problems running the gui on linux. I think it is most likely an issue with my machine or java/eclipse versions, but I thought I'd report it in case other people had seen similar issues. If I am testing things in the gui and then type something in the IDL commandline (eg print, 'test'), IDL takes a long time to respond (sometimes minutes). This is happening when the main gui window is open, but there are no panels open and no processing in progress. When I was first checking things on the mac with lion I noticed similar problems. This is a new problem on linux, which is why I think it may be related to updates to my machine.	3/7/2012	Lydia		Pat	Only occurs under idlde, possibly a java or eclipse version issue.		
QA241	Slices: Step 3j) (possible bug) 2-d interpolation fails.	3/12/2012	Lydia		Pat	THM_PART_SLICE2D(766): 2D Interpolation failed due to an error in an underlying IDL math routine. Aaron to expand warning message. Root cause is an IDL internal issue, main task list & report to IDL tech support.		
4511	IDL "out of memory" errors when running TDAS under IDLDE	2/14/2012	Ben		Pat	Java virtual machine memory limit? Identify platforms/IDL versions where this occurs, send bug report to IDL developers. Add note to users's guide if deemed necessary.		