

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
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.		
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			
Aaron								
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		
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		

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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.		
Ben								
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	** 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.		
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 **		
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 Jim M	8/18/2011	Vassilis	0	Jim L	in progress - dependent on 4034a2. On hold, after QA.		
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 multiple 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			
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. JWLV (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			

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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			
Lydia								
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			
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.		

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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 (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			
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.		