

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								
4734	EMIC survey plots slow to generate, due to loading & calibrating L1 FGM data	8/22/2012	Jim L			Add level keyword to top level routine? thm_load_fgm default to level 2?		
4735	Socware ksh directory cleanup	8/24/2012	Jim L			/disks/socware/thmsoc_dp_current/src/ksh out of sync with repository; some files/subdirectories not present in SVN; some junk files (emacs backups, etc)		
4736								
4737								
v7.0 QA Tasks for Review with Vassilis								
General								
4699	I've had questions from some scientists about the status of some of the gbo sites. In particular Fort Yates and Beetles. I know that Fort Yates is done for (drowned in a flood or some other natural disaster). It might be helpful to add a color scheme that is not red but maybe grey for those sites we know will not be up again. Maybe even a note saying site is down for good.	7/10/2012	Cindy	1+	Emmanuel	8/24/2012: Handed off to Emmanuel		
Hannes								
4153	maintenance of gmag stations "Exclude List"	10/11/2010	David	0	Hannes	Exclude List up to date as of 8/20/2012		
4018a	New Calibration FGM parameters and spin axis offsets	5/10/2010	Hannes	1	Hannes	7/02/2012: THA spin axis offset done 7/6/2012, thd and the in progress.		
4080	Attitude Determination next few months	6/21/2010	Hannes	1	Hannes	Updated for inner probes, 2012-07-18		
4472	Inter-spacecraft FGM calibration for ARTEMIS.	1/4/2012	Vassilis	1	Hannes	6/4/12 from Hannes: Artemis inter spacecraft differences show good results with current calibration		
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		
4468	Modify ESA packet loading code to use standard spinmodel routines rather than deprecated ASCII files.		Jim L	1	Aaron	After TDAS 7.0.	1 day	
4034a2	thm_parts_moments update (spin moments mods)	11/22/2010	Vassilis	1	Aaron	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. After 4468.		
4509	Some array accesses still use () instead of [].	2/6/2012	A. Breneman	1	Aaron	For example the ESA packet loading routines, thm_load_peif, thm_load_peek. Work to be done when 4034a2 work continues		
Cindy								
4481	New data product, AE index from THEMIS+std sites	1/9/2012	Vassilis	1	Cindy	awaiting Russian data 7/2/2012: Still need data from 2007-2010. 7/27/2012: Getting current data again, still waiting for older data.		
4720	Add USGS GMAG sites (BOU,CMO, DED, FRD, FRN, GUA, HON, NEW, SJG, SHU, SIT, BSL, TUC)	8/3/2012	Cindy	1	Cindy	8/24/2012: Reprocessing with corrected long/lat/alt data.		
4721a	Add VLDR site to automated processing	8/3/2012	Cindy	1	Cindy	In progress.		

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4721b	Add NRCAN GMAG sites (EHB, actually chain of 5 GMAGs)	8/3/2012	Cindy	1	Cindy	In progress – working with Ian Schofield and Martin Connors to get data back to 2007. 8/24/2012: Vassilis is working with them to see if the data can be made available en masse rather than requesting individual plots.		
4730	Bad range_epoch values in some Alaska GMAG CDFs	8/16/2012	Tami	1	Cindy			
4731	thm_make_ae: add FCC station (when not on exclude list)	8/20/2012	Vassilis	1	Cindy	8/24/2012: Charles Blaise will try to get us the data in a few days.		
4409b	Dixon (DIK) (AARI, Russia)	10/19/2011	Vassilis	2+	Cindy	Downloads in progress. Data from 2011 on has been made available; they have agreed to provide data back to 2007. No 1 sec data available (minimum 1 minute sample interval). Sasha pinged 8/20.		
Jim L								
4709	Manual eclipse processing resets "last processed" date for automated processing	7/24/2012	Jim L	0	Jim L	If the automated processing is up to date, and I manually reprocess a time range early in the mission, the "last processed" date will get reset to the earlier date, which could trigger an unintended reprocessing of the full mission. "last processed" date should only be updated if it moves forward in time.		
4710	Automated eclipse processing not running correctly out of crontab	7/24/2012	Jim L	0	Jim L	Seems to die immediately without doing anything, works OK from command line. After 4709 is fixed.		
4732	Possible time offset between EFI 8khz and SCM 8khz data	8/6/2012	Wen Li	1	Jim L	Looked ok prior to Dec 2010 (both 8khz and 16khz EFI modes), apparent 1 - 2 sample period time offset in recent 8khz data. 8/23/2012: Chris Cully thinks he sees the problem, will respond with suggested fix. Timing is different for AC vs. DC coupled EFI data.		
4716	Add examples of eclipse spin model corrections to crib sheets (fgm, efi, scm, fit, mom)	7/27/2012	Vassilis	1	Jim L	fgm, fit, mom, updated; efi, scm, new eclipse crib in progress.		
4613	Prevent Email Storms when data servers go down	4/25/2012	Jim L	1	Jim L			
4613c	Modify existing processing scripts to log to the database rather than send their own emails	4/25/2012	Jim L	1	Jim L	7/20/2012: Next batch of updates will be GMAG download scripts		
4656	THEMIS Orbits - Discuss with Dan Cosgrove on July 9th. From time to time, the first orbit determination after a maneuver is very "raw" due to the shortness of the arc, causing large discontinuities in definitive position ephemeris when the arc is propagated back to the maneuver burnout time.	6/4/2012	Vassilis	n/a	Jim L	Dan C. and Jeff M. suggest that after each maneuver or series of maneuvers, the MOC can curate the orbit determination data so that the back propagation is done from a higher quality orbit solution (e.g. 7 days rather than a few hours). There will still be discontinuities but they should be much smaller. MOC will provide improved definitive ephemeris files to JWEL (est. late August 2012). We will reprocess a few days of L1 STATE for each incident. We will also provide Hannes a list of reprocessed ephemeris time intervals, so he can check for any changes		
4718	ESA energy table updates – L0->L1 processing mods (tmttools)	8/2/2012	Jim L	0	Jim L	Modified tables will need a new ESA config word – tmttools L0->L1 code needs to be updated to recognize it as a valid ESA mode. Waiting for Jim McFadden to help us update the mode spreadsheet with new config words and table configuration.		
Jim M								

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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	only ARTEMIS probes - Need to talk to Jim McFadden. Also need MOC Support. 8/10/2012: FLATSAT energy weights don't match Jim McFadden's spreadsheet, need to discuss with him, possibly 8/10/2012. Jim L will participate, so we can pick new configuration words for the altered modes and add them to the current spreadsheet. 8/24/2012: Jim McFadden on vacation, will pick up when he gets back.		
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			
4703	New FGM overview plots (EMIC spectrograms)	7/12/2012	Vassilis			A copy of the IDL code, along with the IDL save sets we used as data and a full day's set of plots from January 1, 2012, can be found at ftp://yspace.augsburg.edu/themis/. You will see that the IDL batch file is set up to produce one daily spectrogram and four 6-hour spectrograms for each axis, in two frequency ranges (0-1 and 0-2 Hz). It didn't take Jennifer very long to produce all of these plots for the past 1 - 1/2 years of Themis data. Having so many different plots may be overkill -- one can often identify events using only the 0-2 Hz, 24-hour plot showing only X axis (transverse to B) data... but you can decide how many of these might be optimal for you to produce. If you or your colleagues have any questions, please get back to Jennifer (posch@augsb.org) or me.		
4703b	Additional summary plots for EMIC spectrograms plus supporting changes to THEMIS web site.	7/23/2012	Vassilis	1	Jim M	8/24/2012: Plot jobs now running, web site modifications in progress, need plot keys which will probably go to Emmanuel when Jim finishes his part.		
4639	Also, there are a bunch of other calibration files that are used FGM and other instruments. The installation of these files is not detailed in the admin guide yet. I created a new section, with only one entry for this particular cal file type. If we want to be thorough, we should probably do the others.	5/30/2012	Pat	1	Jim M	7/20/2012: Cal file installation scripts being updated, will document in admin guide when ready. 8/6/2012: One more round of changes to allow cal files to be installed in an arbitrary QA area, when that's tested and documented task can be closed.		
4729	tsmooth2 behavior on irregularly gridded data	8/13/2012	Pat	1	Jim M	Basically, because smooth works on number of points, it ignores time. So if we have a tplot variable with a descending array, then a gap of 10 years, then a tplot variable with an ascending array. tsmooth2 ignores the fact that the data are separated by long enough that one could not possibly contribute to the other and treats them as if there is no gap. Not sure if easy fix; maybe add a test & warning?		
	Pat							
	Updated FGM calibrations for solar array currents, ADC nonlinearity available?	5/30/2012	Vassilis	0	Pat	Last Recieved - May 2012. May need to remind FGM team if we go a long time without updates.		
4733	Refactor particle code to be more flexible and maintainable	8/22/2012	Pat	0	Pat	There is a routine thm_part_dist_array, which, instead of just returning a single particle distribution structure, returns an array of distribution structures for a give time interval. The major change would be to add options to thm_part_moments & thm_part_getspec so that, instead of loading and calibrating the data themselves, they would take the particle distribution array returned by thm_part_dist_array as an argument. That way, additional operations can be performed after calibration, but before moment calculations. 8/24/2012: In progress, should considerably simplify 4712 and 4713.		

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4712	Add a keyword to the SST code which would extrapolate SST data down to the ESA	7/24/2012	Vassilis	0	Pat	Some diode degradation on the SST instrument is increasing the gap between the SST and the ESA. The task is to add a keyword to the SST code which would extrapolate SST data down to the ESA. It would use ESA intercalibration factors that are going to be generated by Drew(or a student), but it would not actually interpolate to the ESA data. If the keyword is set, a linear regression(log energy v log counts) of sst data would be performed for each look direction of the SST. Additional points would be generated using the regression to extend the SST down to the ESA; maintaining the dE/E of the SST instrument. Due late August 2012. 4733 a prerequisite.		
4713	Since the diode degradation will be modeled as shifting the minimum energy of the SST up, we'll need to interpolate the SST efficiency parameters to the new energy bins.	7/24/2012	Vassilis	0	Pat	After 4712. This may not actually be done by someone on the software team, but I thought I'd report it anyway, so that it doesn't get lost in the shuffle once the other calibrations are completed. 4733 a prerequisite.		
4724	Issues with implementation of specplot datagap keyword	8/9/2012	Pat	0	Pat	The way that the keyword is implemented is that it breaks the main spectrogram into smaller spectrograms, using any time gaps bigger than the parameter provided in the datagap keyword as the condition for splitting spectrograms. It then loops over each spectrogram and draws it separately. The problem is that the code it is looping over is basically a copied and pasted version of the single spectrogram version. Some of the parameters that are determined inside each iteration of the loop are then used outside the loop. What this means is that the parameters that get used after the loop are basically set arbitrarily depending on the loop order and on how each parameter is set. May be similar problems, but haven't examined further.		