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							
4738	More concise error reporting for GMAG download/processing	9/5/2012	Cindy		Cindy	Current scripts generate large volumes of notifications for missing data. Is there a way to maintain a per-site or per-network "green, yellow, red" status, then report status changes only rather than reporting each missing file?		
4739								
4750								
	v7.0 QA Tasks for Review with Vassilis							
	General							
	Tips of the Month		David		Jim L	Next Candidates: Lynn Wilson Routines; Eclipse auto processing; FGM Reprocessing, CDF library 3.4.1 released (fixes memory issue for Linux users), Simplified eclipse spin model corrections, new SST calibrations		
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		
4703d	FGM EMIC plot key			1	Emmanuel	Jim M will provide captions		
4664	Laptop locks UCB and UCLA	6/6/2012	David	0	Team			
4661	I tried to load 3dp datatype pm for 2012 - the testscript says to check availability at http://sprg.ssl.berkeley.edu/data/wind/3dp/ and test different combinations. There are cdfs for 3dp pm for 2012 on that site, but the have are _v05 and don't load. Should they load?	6/6/2012	Lydia	1	Jim L	**Wait till after WIND reprocessing and see what happens to version numbers, if they're all consistent then 5 minute change to load routine. Will not do "load highest version" -- responsibility of WIND developers.**		
4464	All plug-ins for v7.10 - add a section to User's Guide for Plug-ins	3/22/2012	David	1	Jim L	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?		
4647	I am reviewing a paper for GRL that uses THEMIS data incorrectly. Basically, the authors are trying to publish solar array switch spikes as evidence for DLs. I am sorry that I cannot give you more details. I will notify the editors of this problem. However, it is entirely possible that such a paper could have been published and I want you to be aware of this problem. Perhaps a warning should be posted on the web site: (1) Axial boom data are not necessarily valid, particularly in the subsolar region. (2) THEMIS EFI data have unwanted "spikes" which come at four times per spin. These spikes are removed in released THEMIS data analysis programs, but the removal process can leave a residue.	6/1/2012	Bob Ergun - Colorado U	1	David/Emmanuel	Will discuss with David 6/18. All changes need to be approved by John Bonnell (very busy with RBSP at the moment). David will wrap up. Emmanuel made changes in beta site 7/5/2012. JB pinged week of Aug 10, no response yet.		
4695	GUI API for other missions to add GUI tabs, load routines, etc	7/6/2012	Jim L	2	Jim L, Developers	Discussed 7/16/2012, JWL to write up proposed tasks, distribute to external devs for feedback.		
	Hannes							
4153	maintenance of gmag stations "Exclude List"	10/11/2010	David	0	Hannes	Exclude List up to date as of 8/20/2012		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
4018a	New Calibration FGM parameters and spin axis offsets	5/10/2010	Hannes	1	Hannes	**9/03/2012: Cal files updates, THA from 2012-06-24, THD from 2012-06-06, THE from 2012-07-05**		
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**		
2074c	quality flag for FGM data. **Dependencies on Ben's tasks 3093 and JWL's tasks 4142 and 2266.**		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. JWL 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.**		
	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	
4468a	Routine to dump common block data to tplot variables (for regression testing)			1	Aaron			
4468b	Replace ESA time tagging code with std spinmodel routines			1	Aaron	Reduced mode first (always 1 spin/sample), then other modes, using tmtools L0->L1 processing as reference implementation		
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	1	Aaron			
4468c	Verify ESA data correctly time-tagged			1	Aaron			
4468d	Add spinmodel loading code to thm_load_sst			1	Aaron			
4468e	Add eclipse delta-phi correction to ESA and SST common blocks			1	Aaron			
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_peeb. Work to be done when 4034a2 work continues**		
4719	ESA energy table updates – TDAS mods (ESA packet processing, calibration, summary plots, etc)	8/2/2012	Jim L	1	Aaron	Support new ESA config word in TDAS code. After 4718 (Jim L).		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
4463	file_http_copy support for proxy servers	12/12/2011	IUGONET	1	Aaron	**Verified correct headers when going through local proxy. Email sent to IUGONET team to test under their configuration, waiting to hear back from them.**	1-3 hrs	
4685	Widget tree expansion, IDL 8.2	6/26/2012	Pat	2	Aaron	IDL fixed a bug which we had worked around, need a version check to enable/disable the workaround so it will work on all IDL versions.		
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 S/W meeting again with Vassilis.**	2/6/2012	Aaron Breneman	2	Aaron	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.	1 hr	
4298	the slices code should probably have a keyword to use the new SST calibrations.	7/27/2011	Pat	2	Aaron	On hold till the SST calibrations have found wider use.		
	Cindy							
4358	Every 6 months check that the UCLA Mag Cal have not changed.	9/6/2011	David	0	Cindy	Next October 2012		
4706	Missing data from McGrath and Kiana magnetometer sites	7/18/2012	Cindy	1	Cindy	Sites are reported as working, but no recent files at the other end, so nothing for wget to pick up. Contacted Harald Frey and Ian Schofield 7/18/2012. Diagnosis in progress. 8/3/2012: May have to wait until school is back in session before we can get a clear status, back burner until then?		
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.**		
4730	Bad range_epoch values in some Alaska GMAG CDFs	8/16/2012	Tami	1	Cindy			
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.		
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.		
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	Cindy	**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. In progress as of 5/15/12 at their end. May take a while, if ever.**		
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	Cindy	**Waiting for CARISMA - our side coding done - run a test when data available**		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
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+	Cindy			
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.**		
4409c	Cape Chelyuskin (CCS) (AARI, Russia)	10/19/2011	Vassilis	2+	Cindy	see 4409b		
4409d	Tixie Bay (TIK) (AARI, Russia)	10/19/2011	Vassilis	2+	Cindy	see 4409b		
4409e	Cape Wellen (CWE) - closed, replaced with Pebek (?) (AARI, Russia)	10/19/2011	Vassilis	2+	Cindy	see 4409b		
778b	Need capability to read in ASCII. IDL has a built in widget to specify ASCII formats.	11/21/2011	Oldie	2	Cindy			
	Jim L							
4709	Manual eclipse processing resets "last processed" date for automated processing; some processing logs not preserved	7/24/2012	Jim L	1	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.		
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.		
4735	Socware ksh directory cleanup	8/24/2012	Jim L	1	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)		
4656	THEMIS Orbits - Discuss with Dan Cosgrove on **July 9th. From time to time, the first orbit determination after a manuever 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 manuever 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 JWL (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 (tmtools)	8/2/2012	Jim L	0	Jim L	Modified tables will need a new ESA config word – tmtools 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.		
4326c	L1->L2 reprocessing for eclipse spin model corrections	8/18/2011	Vassilis	1	Jim L	**After 4034a2, when eclipse spin model corrections are trustworthy enough to enable by default for L1->L2.**		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
4670	Since the full distribution data is at 3 second resolution when we're in fast survey, we might want to consider stopping transmission of reduced distribution data when we're in fast survey. We could use the saved bandwidth to transmit reduced distribution data in 6 angle mode when we've in slow survey.	6/4/2012	Vassilis	1	Jim L	Requires flatsat testing & MOC support; on hold until NuStar launch/EOC.		
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	5/21/12 as per Vassilis - give it a shot; Awaiting flatsat availability - after SST table updates and ESA energy table updates. Probably will have to wait until NuStar launch/EOC. **In Progress**		
4451b	Modify instrument scripts to enable accumulate mode, flatsat testing	6/12/2011	Jim L	1	Jim L / Ops	When MOC support available, probably after NuStar.		
4451c	tdas mods - if accumulate mode approved discuss at S/W meeting	12/1/2011	Vassilis	1	Jim L	double chech slices and getspec as per Aaron **(next up)**		
4451d	Put one probe in accumulate mode and verify correct L0->L1 and L1->L2 processing with live data.	6/12/2011	Jim L	1	Jim L			
4612	GOES 2008 Data	4/20/2012	Andrei Runov	0	Jim L	**7/26/2012: Some telemetry was lost in the process of an internal reorganization, Howard is looking into whether any additional magnetometer data can be recovered.**		
4027b	Reprocessing GOES Data	4/5/2010	Tami - SPDF	3	Jim L	Reprocessing on hold until Howard Singer delivers another batch of binary GOES data files. In conjunction with task 4612.		
4142	issue with FGS processing - timestamps	9/30/2010	Vassilis	1	Jim L	not trivial		
2266	Timing of Spin Fit data	10/16/2009	Jim McFadden	1	Jim L	see 4142		
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.		
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 when		
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		
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		1-3 days	
2047	Separate E and B timestamps for spin fits: a) make a revised V02	before the	Vassilis	1	Jim L	**Hard for SPDF to deal with, with their plotting tools - review**		
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.**		
4030b	Correct Existing Data	5/17/2010	Jim McFadden	1	Jim L	4030a prerequsite		
4030c	If scripts change - make changes to processing scripts	5/17/2010	Jim Lewis	1	Jim L	4030a prerequsite	4-5 days	

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
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 found and I've confirmed through CDAWeb, that the time stamps and associated data measurements for October, 9, 2010 THEMIS-B ESA, after time 15:58:40.695 are of a different resolution and the data values are either 0.0 or -NaN.	2/7/2011	Tami	1	Jim L	Web Site - instruments will have a web page with "Sources of Data Anamolies". 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): THEMIS A Filter Bank Source Selections: 2007-02-23 - 2008-01-01 e12dc, scm3; 2008-01-01 - 2008-05-01 scm2, e34ac; THEMIS A FFT configuration: 2007-02-23 - 2008-01-01 16 frequency bins, e12dc, e56dc, scm1, scm3; 2008-01-01 - 2008-05-01 32 frequency bins, e12dc, e56dc, scm1, scm3	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 (data type VBx appeared once due to corrupted packet, produced empty CDF)**		
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			
	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	**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@augsburg.edu) or me.		
4703b	Additional summary plots for EMIC spectrograms plus supporting changes to THEMIS web site.	7/23/2012	Vassilis	1	Jim M	8/31/2012: Now available on beta web site, reprocessing full mission in progress.		
4703c	Plot key captions -> Emmanuel who will make the plot key			1	Jim M			
4703e	Promote from beta to production web site			1	Jim M	Pending feedback from science team		
4734	EMIC survey plots slow to generate, due to loading & calibrating L1 FGM data	8/22/2012	Jim L	1	Jim M	Add level keyword to top level routine and use level=2 for producing online plots.		
4731	thm_make_ae: add FCC station (when not on exclude list)	8/20/2012	Vassilis	1	Jim M	Data now available, need to modify thm_make_ae script		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
4694	Developers guide/admin guide update: troubleshooting SSH (SVN/rsync) access	7/6/2012	Jim L	1	Jim M	When setting up SVN access for a new user (or an old user using a new computer), or if a host key has changed, might need to do an interactive SSH login to answer the host key verification prompt before SVN or rsync will work. Dev guide due to SVN+SSH issue, Admin guide due to rsync over SSH issue. Additional note: people using putty/pageant on 64-bit machines should make sure they're using the latest version of putty, otherwise will have hard-to-diagnose access problems.		
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. Added test and warning for large gaps.		
4003	Document: ESA File and Calibation Processing	3/5/2010	David	1	Jim M			
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. If we add these variables notify SPDF.**		
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			
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.		
	Pat							

09/06/2012 14:54:04

20120906- Themis Software Task Priority List.xls

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
	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.		
4712a	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. 8/31/2012: Code mostly written, still need to figure out how to extrapolate cal quantities that depend on number of energy bins, sweep modes, etc		
4712b	Routine to smooth particle data across time	8/31/2012	Vassilis	0	Pat	8/31/2012 In progress		
4712c	Routine to edit particle calibration parameters on the fly	8/31/2012	Vassilis	0	Pat	8/31/2012 In progress		
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.		
4737	calc enhancements	9/3/2012	Vassilis	1	Pat	For newly created variables, ytitle should default to the variable name; scale should reset to automatic and forced to be linear. Or, maybe better if it takes the lin/log options from a variable on the right hand side, if that's feasible.		
4723	tplot feature request: formatting callbacks	8/7/2012	Pat	1	Pat	There doesn't appear to be a way to explicitly format a var_label in tplot using a callback function, the same way that I can format an annotation using a callback in normal IDL-plot. This is a pretty big limitation on the var_labels. Right now it only		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
4711	GUI cotrans error checking	7/24/2012	Pat	1	Pat	When looking at the replay/overwrite logic in the GUI, I noticed a small issue. If you try to cotrans a variable that is not a 3-vector, it still asks you if you want to load the support data that is necessary for the transformation. I'm wondering if it might be better for it to check whether the variable can be transformed at all, before it tries to load the support data needed to run the transformation.		
4545	Axis options: Major ticks by interval/Annotate every: For a non-time axis, switching between log/linear doesn't update the major tick every field as might be logical. ie. if you set to every 10000 n^1 on linear then switch to log it still tries 10000 10^n. Usually this means it fails to place any ticks/annotations if you switch between log/linear with either major ticks by interval or annotate every set.	3/14/2012	Lydia	1	Pat	Formerly QA271. If you have major tick every set and a mix of log and linear axes on the page and then use set all panels, you're bound to end up with no ticks on the panel with different scaling.		
4537	Deletion of data not reflected in saved/reloaded THEMIS document. Formerly QA206. Also remember to overwrite prompt setting (yes to all, etc)	3/2/2012	Lydia		Pat	I loaded data for probes b and c and then went to plot the data and realised I should have loaded a and b for the tests. I returned to the load data panel and loaded the probe a data before deleting the probe c data. After saving as a themis document and reopening, the c data was loaded but not deleted. The data that was loaded and deleted using delete all data following the testscript does not appear when you reopen the document (as you'd expect).		
4460	Add New Routines from Lynn Wilson	3/22/2012	Vassilis	1	Pat			
4460-1	Include: safe, minimal effort, obvious benefit. (21)		Vassilis	1	Pat		3-4 days	
4460-2	Documentation only: LW3 has documented a routine that didn't have documentation previously, but incorporating routine body is not worthwhile.(possible bugs or too much effort) (12)		Vassilis	1	Pat		1 day	
4460-4	Not sure: Need a scientist's opinion on the benefits of the routine. (26)		Vassilis	?	Pat	**Vassilis will talk to Lynn Wilson and ask the benefits of these routines**		
4460-5	Not sure: Need more programmer time to make confident recommendation. (14)		Vassilis	?	Pat	**Vassilis will talk to Lynn Wilson and ask the benefits of these routines**		
4460-6	Helper, only include if required by an included routine. (9)		Vassilis	1	Pat			
4627b	SST: Andrei did some work that makes it look like we may need to look at the inter-anode calibrations for probes B & C.(This may be more Drew than me)	5/17/2012	Vassilis	1	Pat	**Complete 4627a - d by August 1**		
4627c	SST: We need to generate a combined spectrum product that includes the FTO(low) channel. This would be adding the FTO(low) channel to the F+FT combined spectrum that we've already created.	5/17/2012	Vassilis	1	Pat			
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.		
4627d	SST: After #a-c are done, we need to reprocess SST L2 with sun contamination removed and new calibrations applied.	5/17/2012	Vassilis	1	Pat	need 4267c to be completed		
4002	Document: SST File and Calibation Processing	3/5/2010	David	1	Pat	**to be completed 9/30/12**		
4603	make new SST Cal standard	3/22/2012	Vassilis	1	Pat	Revisit in July ** on hold **		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
4717	A limitation for tplot came up for the EMIC plots. If you want to use the var_label feature(for example, to plot spacecraft position below spacecraft data) you can only put the var labels at the very bottom of the plot. In the case of EMIC, what we actually want to do is a layout that looks like this (from top to bottom) Plot1PrbA Plot2PrbA VarLabelPrbA Plot1PrbB Plot2PrbB VarLabelPrbB Plot1PrbC Plot2PrbC VarLabelPrbC ....etc...	8/2/2012	Pat	2	Pat	You can't actually do this in tplot right now. To work around this limitation for the EMIC plots, I'm going to do some tricks making separate plots in the z-buffer and concatenating them then reposting them to the z-buffer. This will work for the overviews, but it is an ugly kluge. We should consider a task that adds this feature to tplot.(The task would be to add the feature to tplot and to add examples to the tplot cribs showing how to use the features) 8/6/2012: Workaround exists for EMIC plots, assess level of effort for more general solution. Will need Davin's approval if changes are nontrivial. Probably 2-4 days effort.		
4686	There were several reports that the dproc window was too small in IDL 8+. It looks like this is a side effect of the font change.	6/27/2012	Pat	2	Pat	For whatever reason, many widget sizes are specified in characters, instead of more standard units. This means that if the base font size of a character changes, so does the size of a viewable area. Just an FYI, I'm going to be rolling this one into the font size one. I'll list it as a reason why the font size change is such a pain in the rear.		
4550	Major ticks by number/major ticks by interval: It might be nice to have major ticks by interval default to something logical rather than 1 n^1. If you change 'Major ticks every' then 'Major ticks by number' is updated to something that closely matches that interval, but the reverse isn't true. I'm not sure if we necessarily need 'Major ticks every' to update when 'Major ticks by number' is changed, but it might be good to have it default at the beginning to something that sort of matched.	3/15/2012	Lydia	2	Pat			
4520	The bug that Drew had reported yesterday turned out to be not a bug, but because the bins that the sun decontamination code selected differed depending on the date selected and this wasn't clearly reported to the end-user. I put an informational message in to clarify what is happening, but after talking with Drew there are two other solutions that don't fit within the scope of QA, but would be good to consider later. There features are: #1 Add a keyword that returns the the bins that were flagged by automatic sunlight decontamination to the end user. #2 Provide an option to window the automatic sunlight decontamination code so that one test is not applied to the entire time period.	2/22/2012	Pat	2	Pat			
2060	L2 cdf Quality Flags: for SST		Vassilis	2	Pat			
4208b	Enhanced SST Instrument Web Pages	3/5/2010	David	2	Pat	See current ESA Instrument Web Pages - Make recommendations to Vassilis to improve.		