Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes		A&E crib;
		opened					Estimate	UG; DevG; Qref; AdmG
	To be Assigned or Discussed							
4723	tplot feature request: formatting callbacks	8/7/2012	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 accepts fortran or c-style format codes. (basically any string that you can pass to the format= argument of the STRING function) For example, if I want to use var_labels of the form HH:MM to label MLT, that is not currently possible in tplot. It seems like it would be a fairly simple to fix this. The task, if we decide to give it priority would be to modify tplot so if I make a call like this: options,'some_var',format='annotation_callback' tplot,'main_var',var_label='some_var' It will call the callback when formating the var_label instead of treating the value of format code, We may need some special syntax to indicate that this is a callback instead of a format code, but it should basically follow the standard used for the xyzformat keywords to the PLOT procedure. It would also be to add callback examples to our tplot cribs. Also, I haven't checked if this is a problem for the x/y/z annotations of tplot, but if it is, this task should include modifying the treatment of those parameters to accept callbacks as well and update the cribs to example those too.		
4724	Issues with implementation of specplot datagap keyword	8/9/2012	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. May be similar problems, but haven't examined further.		

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4725	thm_cal_fgm crash	8/9/2012	Pat			I just called thm_load_fgm with the !themis.no_download keyword set(because I was having trouble talking to the SSL data server)		
						I got the following crash. (Presumably because a file that needed to be there was not.) We should find a way to make this crash occur gracefully.		
						STORE_DATA(104): Deleted 21 variables SPINMODEL_GET_PTR(63): No eclipse corrections. THM_SPINMODEL::INTERP_T(160): Using spinphase correction % FILE_LINES: Error opening file. File: No such file or directory % Execution halted at: THM_CAL_FGM 300 /home/pcruce/IDLWorkspace/themis/spacecraft/fields/thm_cal_f gm.pro % THM_CAL_FGM 152		
						/home/pcruce/IDLWorkspace/themis/spacecraft/fields/thm_cal_f gm.pro % THM_LOAD_FGM_POST_180 /home/pcruce/IDLWorkspace/themis/spacecraft/fields/thm_load_		
4726	tdegap feature request, /twonanspergap keyword	8/9/2012	Pat			The default behavior for tdegap is to fill gaps with NANs at whatever it thinks the data cadence of the input variable is. Under certain circumstances, this can use a ton of memory. (For example if you have large gaps.) To fix this problem, we added		
4727	Aug 15: SSL electrical shutdown prep/recovery	8/10/2012		0	All	May want to disable long-running cron jobs the day before, to avoid server shutdowns while scripts are running.		
4728								
4729								
4730								
	v7.0 QA Tasks for Review with Vassilis							
	Hannes							
4153	maintenance of gmag stations "Exclude List"	10/11/2010	David	0	Hannes	Exclude List up to date as of 6/25/2012		
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		
	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		
4708	2-D slices enhancements	7/23/2012	Aaron	1	Aaron	<ol> <li>Modify slices plotting procedure to take single structure that will include data and axis arrays;</li> <li>Fix/re-apply feature to draw instrument's energy limits on slices plots</li> </ol>		
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	

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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.		Qrer; Aumo
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).		
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	
4543	Axis options: With "bound autoscaling" or "floating center w/ span",	3/14/2012	Pat	2	Aaron	Floating center/span not very useful; probably exists	1-4 hrs	
	Cindy					only because SPLASH had it. Perhaps it could be	uepenuing	
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 lan 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.		
4720	Add USGS GMAG sites (BOU,CMO, DED, FRD, FRN, GUA, HON, NEW, SJG, SHU, SIT, BSL, TUC)	8/3/2012	Cindy	1	Cindy	In progress – have data from 2009,2012,2011. 2007,2008 in progress. Unpacking/installation script and master CDFs in progress.		
4721a	Add VLDR site to automated processing	8/3/2012	Cindy	1	Cindy	In progress.		
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		
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+	Cindy	Database table for "defunct" sites, with brief explanation why, and check this in the PHP code for the status pages? Or (static) web page linked somewhere with status of each site? Tim Quinn had a page based on Google Maps, bring up to date (1 map per year showing GMAG sites). Also, use a different color for defunct sites on the PHP status pages (instead of "red" for stale data). 8/3/2012: Status inventory in progress, will make GMAG map page similar to ASI map page. Emmanuel on vacation until Aug 20, will add map to THEMIS web site when he's back.		

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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 readyI 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). Will ping week of Aug 15.		
	Jim L							
4715	Remove /true_dsl keyword from thm_load_fit, thm_load_mom, etc	7/27/2012	Jim L	1	Jim L	same meaning as use_eclipse_corrections=2		
4070	"Add support to thm_cotrans, ssl2gse, and ssl2dsl for /pseudo_dsl keyword. If keyword is present, look for and apply eclipse delta_phi corrections as appropriate."	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 quantities in thm_load_mom.		
3093	Automate processing of eclipse sunpulse data from FGM team	2/22/2010	Jim L	1	Jim L	Once prod reprocessing complete send announcement.		
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.		
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 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		
4430	crip for eclipse despinning code for spin fits and moments	11/9/2011	JIM L	1	JIM L	on noia- demo exists;dependent on 3093		

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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.		
	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.		
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			
4714	Ithemis.verbose setting not propagated to tplot_options,'verbose' setting	7/31/2012	Jim L	1	Jim M	Davin recently (Feb 2012) changed some dprint levels in store_data.pro. Some expected diagnostic output is missing, even though !themis.verbose is set high enough. However, the behavior is a little unexpected: the diagnostics appear within thm_load_state, for example, but not when calling store_data from the command line. Perhaps !themis.verbose needs to be pushed down to tplot options,'verbose' in thm init or		
4703	New FGM overview plots (EMIC spectrograms)	7/12/2012	Vassilis			<b># 000007 ighe</b> 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	After 4703a (Pat)		
4688	Ensure that remote_data_dir URLs end in trailing slash	6/27/2012		1	Jim M	Davin objected to mods to file_retrieve, so mods need to happen in thm_load_xxx and other routines that call file_retrieve.		
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.		
	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.		

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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.		
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.		
4707	Unintended make_asi_orbits reprocessing triggered by reprocessed state CDFs	7/23/2012	Pat	0	Pat	Process last two week's worth, otherwise ignore updates to state CDFs.		
4722	Crash in thm_crib_fgm, line 152 (direct call to thm_cal_fgm)	8/3/2012	Jim L	1	Pat	% Variable is undefined: DATATYPE.         % Execution halted at: THM_CAL_FGM_DAC_OFFSET 35         /home/jwl/tdas_trunk/themis/spacecraft/fields/thm_cal_fgm_dac         _offset.pro         %       THM_CAL_FGM 404         /home/jwl/tdas_trunk/themis/spacecraft/fields/thm_cal_fgm.pro         %       \$MAIN\$ 152		
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.		
4703a	Integrate Augsburg code with TDAS (Ferdinand can help), generate EMIC spectrograms from TDAS GUI.	7/23/2012	Vassilis	1	Pat	Also from FGE data? Plots should have perigee annotations if possible. 8/10/2012:Testing in progress. Need Photoshop to make plot key, or maybe Emmanuel can do it?		
4705	The changes that I made to allow more flexible tick aesthetic tick placement don't seem to be working so well on the z-axis.(see image from previous email,steps of 0.9 orders of magnitude don't make sense)	7/12/2012	Pat	1	Pat	If this were the y-axis, you could just change the recommended number of ticks to a number of ticks where the aesthetic selection algorithm selects an even order of magnitude. But that option is unavailable on the z-axis. Allow the user to input a recommended number of ticks even when the "aesthetic" option is selected.		
4697	Create a set of Benchmark Tests against IDL future versions (now for v8.2 beta). Run these tests and produce a report. In addition present this report to Exelis in a web conference with a demo of TDAS. Benchmark Tests should include tests for PC, Mac (leopard and lion) and Linux O/S.	3/21/2012	David	1	Pat	Presented to Exelis 7/25/2012. Waiting to hear from Exelis about which email address to use to submit test instructions so they can attempt to reproduce the issues we found.		