

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								
4834	Add additional links to instrument configuration history pages	1/10/2013	Bob McGuire		Jim L	1) From ESA, SST, other instrument pages 2) L1/L2 master CDFs 3) Possibly from one of the "Data" dropdown menu items?		
4835	Possible issue with pwrspec, dpwrspec	1/11/2013	Michael Hartinger	1	Jim M	<p>Quick summary: I think line 98 of the TDAS routine pwrspc and line 201 of the TDAS routine dpwrspc should be changed from $pwr(1:bign/2-1) = (xs2(1:bign/2-1) + xs2(bign - dindgen(bign/2)))/dbign^2$ to $pwr(1:bign/2-1) = (xs2(1:bign/2-1) + xs2((bign-1) - dindgen(bign/2-1)))/dbign^2$.</p> <p>Explanation : The way the sum is done on these lines in the original code, smoothing occurs in the frequency domain even when the bin keyword is set to 1. The reason is that the second array on the right hand side has one extra element than the first array, with element 0 and 1 in the second array duplicated. As a result, the two arrays are offset and some smoothing occurs, which I don't think is intended. According to Numerical Recipes in Fortran, the index 0 element of the second array should be $xs2(bign-1)$, the index 1 element should be $xs2(bign-2)$, the index 2 should be $xs2(bign-3)$, and so on - right now it is $xs2(bign)$, $xs2(bign-1)$, $xs2(bign-2)$ - I'm not sure why this doesn't cause the program to crash, since the length of $xs2$ is $bign$, so the last allowed index in IDL should be $bign-1$ rather than crash, IDL returns $xs2(bign-1)$, $xs2(bign-1)$, $xs2(bign-2)$, which I don't think is intended.</p> <p>When the change is made, the spectra are similar, but there are noticeable differences, particularly when $bign$ (the length of the FFT window) is small. I'm not sure if this smoothing is intentional (there's a comment a few lines above that says following Numerical recipes in Fortran, p. 421, sort of), but thought I would bring it to your attention.</p>		
4836								
4837								
4838								
Hannes								
4153	maintenance of gmag stations "Exclude List"	10/11/2010	David	0	Hannes	Exclude List up to date as of 9/20/2012		
4018a	New Calibration FGM parameters and spin axis offsets	5/10/2010	Hannes	1	Hannes	12/06/2012: Cal files updates, all probes from mid-August 2012 on.		
4080	Attitude Determination next few months	6/21/2010	Hannes	1	Hannes	10-22-2012 Updated for 2012-04-01 – 2012-06-30		
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		
4034a2	thm_parts_moments update (spin moments mods)	11/22/2010	Vassilis	1	Aaron	Testing on 2-13-2010/THB eclipse looks good, looking at other eclipses under different conditions to assess performance of eclipse corrections.		
4795	thm_part_dist_array memory allocation optimization	11/13/2012	Pat	1	Aaron	Scan common blocks and preallocate all needed memory rather than doing incremental allocation/copies.		

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4777	thm_part_dist_array modification	10/2/2012	Aaron	1	Aaron	The task would be to vectorize thm_part_dist_array by having it directly access the common blocks where particle data are stored instead of looping over thm_part_dist. This would mean writing some vectorized sub-fuctions that recreate the operations done in datatype-specific routines called by thm_part_dist. Also, for this to work and be most effective all background/contamination removal and other similar routines would need to work on arrays of data structures. May be rather complicated...assess level of effort, then prioritize.		
1299	The algorithm for determining on-screen clicks, particularly the difference between an x-axis click and a variable click could use improvement. Right now it does an approximation using the size of the margin, but a better solution would be for it to acco		Michael	EL			2 days	
4650	It appears that not all labels are "anchored" in the same manner. In the attached plots all the stacked labels are drawn inward from a specified point while the non-stacked labels are drawn outward (anchored on the bottom instead of the top). This may be relevant if we want to compensate for the font size difference.	6/1/2012	Aaron	?		Aaron or Pat?		
1301	The draw object takes a long time to render spectrograms when they are very zoomed in. It should be possible to put a special case in that would make this work more quickly.		Pat	4				
	Cindy							
4358	Every 6 months check that the UCLA Mag Cal have not changed.	9/6/2011	David	0	Cindy	Next March 2013		
4781	GMAG station status: troubleshoot stations with no data reported				Cindy			
	Ping Sasha for status of back AE station data					Next March 2013		
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.		
4760	Add McMac magnetometer network (12 sites) to our data set.	9/17/2012	Vassilis		Cindy	Peter Chi provided data source for RMD files, writing script to convert them to CDFs		
4761	Add STEP polar magnetometer network (6 sites) to our data set.	9/17/2012	Vassilis		Cindy	12/12/2012 Ian Schofield is gathering Dr. Hayashi's data for us, will get back to us after Jan 1.		
4783	OMNI load routine for GUI	10/15/2012	Vassilis	2	Cindy	Working well in preliminary tests, final testing & API documentation updates in progress.		
1125	Sometimes when the Annotate Last option is turned off (as it is by default) it will keep ticks relatively far away from the end of the axis from being annotated. If there are three or less ticks on an axis this may cause a large portion of it to be annotationless making it difficult to read.		Aaron	EL			4 hrs (? Done)	
4552	Right now, if the GUI automatically selects fewer ticks than the user requested it overwrites the value that the user requested. I'd recommend that we don't change the requested value even if the displayed number of ticks is less than the requested number.	3/15/2012	Pat			(See also #4508) Rewriting the ticks on each step can create a lot of odd problems with "tick mark creep". For example, if you request 5 ticks, the algorithm might only be able to fit 4 ticks nicely, and then it replaces the 5 in the panel with a 4. But if you request 4 ticks it might draw 3(because of rounding, it might just barely fail the test for 4), and then it writes 3 in the panel. Thus you get a situation where each time you hit apply you get fewer ticks than the last time. This problem exhibits in lots of other ways. So I think just not flush the draw object value back to the interface would be the safest fix. Lydia: we'll need to make it clear to the user somehow that the number of ticks in the box may not be the same as the number of the plot (I'm sure they could read it in the users' guide, but people might forget).		

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1419	It is essentially impossible to get more aesthetic ticks on a log axis when ticks are spaced 1 order of magnitude apart. There is a fix that could fit more aesthetic ticks in		Pat	EL				
1420	We should add an option that allows the user to determine if minor ticks should be log-spaced or not. On plots with very large ranges, logarithmically spaced minor ticks are not helpful.		Pat	EL				
Eric								
4523	GUI Load Data: Console errors when selecting "None" from instrument type dropdown	2/17/2012	Jim L		Eric	Not trivial to remove the "None" selection from the instrument type combobox. "None" was basically a placeholder for the "load ASI" feature that might not be implemented for a long time, if ever. Consequently, the code for changing between instrument types is looking for hard-coded array indices into the combobox list and treating them as special cases. Dropdown error msg fixed, but code still badly needs a rewrite.		
4827	IUGONET plugin forked some TDAS routines, some updates probably now moved into TDAS, any remaining incompatibilities? SVN URL: svn+ssh://thmsvn@ambrosia.ssl.berkeley.edu/repos/thmsoc/trunk/i dl/iugonet	12/20/2012	Pat		Eric	file_http_copy and file_retrieve changes already in trunk, changes to thm_ui_calendar now ported to trunk. Now year dropdown has a very long list of years back to 1880. Maybe start year should be a parameter when the widget is created, so people who only work on THEMIS data won't have to deal with scrolling past dates in the 1800's?		
803	Would be nice to have a way to move different panels from one page to another	11/22/2011	Oldie	3	Pat	sort how level of effort to accomplish. On hold, after QA		
1061	Add capability to control Legend text, font, format, size, color			3		Vassillis reviewed on 7/20/09	4 days	
1241	This is just a minor nuisance. If you delete button is hit with no entries in the GUI Data pane, the Delete GUI data confirmation dialog still pops up. Perhaps the delete and examine icons should be desensitized when there's no data loaded in the GUI.		Bryan	EL			1 day	
1501	Overview Plots: Applying any y-axis settings to the roi panel turns the data black making it somewhat hard to read.		Aaron	EL			4 hrs	
1266	Our numerical entry fields only accept exponential notation entries of the form (1.23e-3) but not the more traditional format(1.23*10^-3). We may want to leverage the code base from the mini language so that we can interpret these entries as numbers.		Pat	EL		Still happening?	3 days	
1497	State Reduced: The save document dialog remembers your previous selection, but it doesn't do it quite right. It puts the expanded path of the file in the selection area. For example("/Users/pcruce/temp/state.tgd"). It should instead use the "path" keyword to dialog_pickfile so that the initial directory is the directory of your current selection ("/Users/pcruce/temp/") and the path keyword so that your initial selection is not the expanded path("state.tgd").		Pat	EL		Update GUI test instructions to exercise new feature	1 hr	
1498	State Reduced: When Opening a Themis Document, it should list the directory of your previous selection.		Pat	EL		Update GUI test instructions to exercise new feature	3 hrs	
Jim L								
4831	Admin guide updates: eclipse spin corrections, chk_bfds_archive	1/3/2013			Jim L			
4815	Developer guide updates for GUI API, placeholders for rest of SPEDAS to plugin interface	12/7/2012	Vassilis					
4816	Eclipse spin model processing: some eclipses not being processed with current code, but Ferdinand's code is giving results?	12/7/2012	Ferdinand		Jim L	Ferdinand has updated eclipse model parameters for inner probes		

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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.		
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. 9/28/2012: New modes & config words may already be present in latest ETC spreadsheet.		
4142	issue with FGS processing - timestamps	9/30/2010	Vassilis	1	Jim L	not trivial. After 4764		
2266	Timing of Spin Fit data	10/16/2009	Jim McFadden	1	Jim L	See 4142 After 4764		
	Jim M							
4824	Xuzhi help request – ESA moment calculation	12/17/2012	Xuzhi	1	Jim M	No potential subtraction in L2? Responded w/ email, anything left to do on this?		
4799	Possible issue with onboard moments, or transform to GSM coords			1	Eric	Only present in online plots. Problem fixed, reprocessing in progress.		
4784	Add RBSP orbit data to THEMIS plots	10/16/2012	Vassilis		Jim M	10/26/2012: John B will provide link for RBSP orbit data. I received a request to plot RBSP data on the THEMIS plots. Maybe as a fourth click to show both inner probes and RB?		
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. 9/10/2012: Energy weight table discrepancy resolved, flatsat and probe EEPROM tables are fine. 9/28/2012: New modes & config words may already be present in latest ETC spreadsheet.		
	Nick							
	Update FBK, FFT, ESA, SST configuration history HTML pages				Nick	Update monthly for now.		
4828	thm_load_fit produces NaN-filled FGS and probably EFS samples	12/20/2012	Jim L		Nick	Most likely at packet boundaries (L0->L1 processing), possibly related to spikes seen in calibrated FGS? Causes NaN-filled matrices in tvector_rotate.		
4804	ESA, SST configuration history	11/20/2012	Jim L		Nick	HTML reports now available. Next step: put time intervals in a database so we can produce different views (ascii tables, timeline, interactive views) with php scripts that pull from the same database.		
4819	Generic "terms of use/rules of the road" popup for SPEDAS	12/11/2012	Mini-GEM		Nick	Caller provides some sort of mission identifier & custom message; after displaying message, give user a chance to accept/decline; if accepted, remember for rest of IDL session (common block?) and don't prompt again (for that mission ID). Should work in CL or GUI environment.		
4541	tvector_rotate: some rotation matrices produced by rot_testscript are all NaNs.	3/13/2012	Jim L			2 matrices out of 27895 (indices 18783 and 23042) are all NaNs, rest OK. Possibly missing FGM data points at those sample times? No action required for QA. Formerly QA268. See task 4828, some NaN-filled samples produced by thm_load_fit.		

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4542	If you create an x-versus-y plot, instead of a time series plot in the gui, then make the x-axis logarithmic, it will autoscale to the entire range of the data, instead of just the visible data set. I'm not entirely sure if this problem is specific to log x-axis or just to any x/y plot	3/14/2012	Pat			Exact instructions for replication: load tha_state_pos in gui, default day Open Layout Select "show data components" select tha_state_pos_x for x_var select tha_state_pos_y for y_var select line-> and hit "ok" Open x-axis options select "log10" and hit "ok" zoom in on data. The x-axis will adjust, but the y-axis will not(even through the range of the displayed data is being reduced by the zoom operation)		
1178	I accidentally tried to plot wavelets as lines and got a memory error. I do not know if there is any way of intercepting this, but it would be nice if there were. Traceback Report from THM_UI_LAYOUT_OPTIONS_EVENT: Unable to allocate memory: to make array		Michael	EL		need to talk with michael		
1125	Var options - would be nice to have Panel droplist return to the Panel that was last modified. Right now it always opens with Panel 1.		Cindy	EL		Not sure where to store last modified panel information. Discuss w	1/2 day	
1576	I was thinking it would be nice if we enabled resize on the overview plot key window. That way on larger monitors, users could extend the window so that they can see the whole key at once.		Pat	4		Discuss with team.		
	Pat							
4829	New keywords for thm_part_moments, 1-count subtraction			1	Pat	Pat has some code to routinely subtract 1count/s from the moments. I am including the snippet below. I suggest that we do this routinely in thm_part_moments, using the following new keywords with defaults: zerolevel=1 for subtraction and mincounts=5.e-3.		
4832	Allow keywords in calc function calls	1/7/2013	Vassilis	1	Pat	e.g. calc,'a=total(b,/nan)'		
4833	Mitsuo Oka help request – ESA vs. SST sample times from thm_part_getspec with /sst_cal keyword	1/7/2013	Mitsuo Oka		Pat			
4826	Keyword to convert SST data into an omni spectrum before moments are calculated	12/19/2012	Drew		Pat			
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	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.		
4773	Redo SST calibrations with new scheme: match intervals during quiet periods early in the mission, to establish relative efficiencies, then later in the mission to estimate degradation.	10/1/2012	Vassilis	0	Drew			
4771	Writeup for new SST calibration	9/28/2012		0	Pat/Drew	For senior review. After 4773.		