Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate (hrs)
	To be Assigned or Discussed						
4029	One of Michael Hartinger (a grad student in atmos) is having trouble with thm_part_getspec when the SST is in fast survey mode. The routine can take a very long time to run because of the higher resolution. I think we should put a feature request on the list to automatically downsample the particle data in time. Normally, I would suggest that uses downsample using one of our interpolation routines, but because the particle data is stored in a special common block, there is no easy way for end users to perform this operation.	4/6/2010	Michael Hartinger / Pat	?	Pat	Michael supplied code for thm_part_moments	
4034a	Ferdinand sent was an attempt on his part to automate the shadow processing. He wanted feedback whether the products produced are adequate and if the code is amenable to automation. We can pick it up with him once you have gone through it.	4/14/2010	Vassilis	?	Jim L	incorporate eclipse sun pulse generation into L0->L1 processing	
4034b	Ferdinand sent was an attempt on his part to automate the shadow processing. He wanted feedback whether the products produced are adequate and if the code is amenable to automation. We can pick it up with him once you have gone through it.	4/14/2010	Vassilis	?	Hannes	From Hannes: I have written a program that calculates the spin phase correction based on comparison with the Tsyganenko model (for eclipsed perigee passes). I will make comparison plots.	
4035	When you do a coordinate transform on data, the variable name is updated, but the y-axis label for the variable stays the same. I'm not sure if picking apart the labels to search for coordinate systems is a business that we want to get into, but as it is a common outcome is to generate data whose default labels are incorrect.	4/14/2010	Pat	?	?	Found during QA Testing	
4037	there's no option in the GUI to load L1 raw data for any of the THEMIS data types -- it always tries to calibrate if you load any L1 variables. We could add a checkbox or 2-item dropdown list ('L1 type=raw', 'L1 type=calibrated') to that panel, and have it default to 'calibrated', then make sure the appropriate keyword gets passed to the load routine, depending on which option is selected.	4/15/2010	Jim L	?	?	**For discussion**	
4038	A grad student brought my attention to some missing on-board moment plots for September/October 2007, THEMIS A (See September 23) I ran the routine to generate the plots on my computer and it worked fine so I think that the plots are missing because either #1 The data arrived late or #2 The script to generate the plots had bug that was subsequently fixed. I think we may just want to reprocess the space based moments for that time.	4/15/2010	Pat	?	?	ESA had bad packets around that time	
4039	L1 FFT's - split into different data sources	4/15/2010	Jim L	?	?	SPDF has issue creating plots on the L1 data with their software	
4040	Spinfits - separate E&B timestamps?	4/15/2010	Jim L	?	?	SPDF has issue creating plots on the L1 data with their software	
4042	Script to run every two weeks to runs IDL TDAS and checks if a file can be loaded from THEMIS SPDF file (s)	4/19/2010	Pat	?	?	Do we want to do?	
4046	either thm_load_fit or the GUI code that calls thm_load_fit should split the data into separate tplot variables for E and B, before importing them into the GUI data model. I think thm_load_fft already does something like this.	4/23/2010	Pat	?	?	Jim M 4/23: thm_load_fit also splits into efit and bfit variables, so unless you need to look at raw bytes, the 'fit' datatype is not needed. Pat: Agreed. Short term, excluding the data type from the GUI seems like an easy solution.	
4047	I found an even crazier one, and I'm pretty sure this is new. If I load data from gui with the following options: 'EFI', Probe:'A',L2:'*' It creates two tplot variable names, both with the name ''(both named empty string). After this pretty much everything breaks.(Command line or GUI). I thing this is due to problem with thm_load_efi on the command line. Specifically: timespan,'2007-03-23' thm_load_efi,probe='a',datatype='*',level=2 Crashes with: % Attempt to subscript DATA_QUANTS (TPLOT_COM1) with <LONG(-1)> is out of range.	4/23/2010	Pat	?	Jim M	Jim M 4/23: There is no EFI L2 data, so THM_LOAD_EFI won't work. The new program THM_LOAD_EFI_L2 handles missing files gracefully, and can be committed anytime. I've been waiting for L2 EFI data, but will commit now. I was wrong, the *new* version of THM_LOAD_EFI_L2 handles this gracefully, and was just committed. Anyway we don't need to patch anything, but we'll probably want a minor release when EFI L2 comes online... (also true for SCM L2's) Pat: The option exists in the GUI to load the _dot0 quantities from the EFI. If the user tries to do that it creates multiple tplot variables with names that are the empty string. Most TDAS routines that use tplot variables don't work after that point because of the assumptions that they make.	
4049	2D slices - speed-up technique	4/23/2010	Aaron	?	Aaron	e.g. factor of 10 in certain cases	
4050	E2d Slices - Energy range limits not working properly	4/23/2010	Xuzhi	?	Aaron		
4051							
4052							
4053							
4054							
4055							
	General						
2186	I noticed that the Data->Collaboration Tools->(subcategories...) fall behind the ARTEMIS graphic.	7/28/2009	Michael	2	Amanda	Run Compatiability View in Internet Explorer	
	Complete Charts in UCLA and UCB rollups	2/1/2010	David	1	David		
4014	Each Month - Tips dujour	3/22/2010	David	2	David	STATE cdf Desc doc first - developed by Jim L	
4000	Document: Developers Guide	3/5/2010	David	2	Team		
4001	Document: Administrators Guide	3/5/2010	David	2	Team		
	Incorporate electron calibration into data	10/25/2009	Vassilis		Davin		
	Enhanced SST and MOM Instrument Web Pages		David		Davin		
2103	EAC offsets	8/1/2009	John Bonnell	2	John B	John has taken AC coupled data -> he will get me the offsets and the switch-over times. (eta: 5/14/10)	
2228	one outstanding issue with THM_LOAD/THM_CAL_EFI is that for some reason when I ask for the calibrated data in SPG (which should just be adjustment of gains and offsets, and conversion from ADC units to physical units, the code is trying to do some despin operations. Since this has direct impact on my ability to evaluate the EFI data quality,	9/3/2009	John Bonnell	1	John B	John to review Jim's fix, eta 4/30	
2216	Fix the sign reversal of e34.	8/13/2009	Michael	tbd	John B	eta 5/7	

2225	L2 EFI cdf (quality flags)	8/31/2004	Vassilis	1	John B	Jim M to create master cdf with few new variables. John to look at data and describe the criteria for the quality flags. (eta 5/7)	
	Harald						
	ASI software - running fine as of 12 April 2010, L1's and mosaics are up-to-date.				Harald		
	Thumbnail Data:				Harald	Updates ready 7-10th of the next month	
	- cdf files done until March 31, 2010						
	- overview plots done until March 31, 2010						
	- movies done until March 31, 2010						
	Full-resolution raw data:				Harald		
	- complete for 2007 and 2008						
	- reasonably complete until mid Nov-2009						
	Full resolution data:				Harald		
	- data cdf done for all 2007 and 2008 and mid Nov-2009						
	- keogram cdf done for 2007 and 2008 and until mid Nov-2009						
	Web site mosaics and movies:						
	- Mosaics and movies reprocessed for 2007/2008 and 2008/2009 seasons						
	- Mosaics and movies up to date until March 31, 2010						
	Web site overview plots with full resolution data:						
	- overview plots done for 2007 and 2008 and until mid-November 2009						
2069d	UCLA – mirror site set-up		Vassilis	1	Harald	UCB has sent 4 bricks to UCLA. After brick transfer UCLA will need to supply SSH key - RSYNC Key.	
	Hannes						
4018	New Calibration FGM parameters and spin axis offsets	3/22/2010	Hannes	1	Hannes	sent t scientists	
2273	Attitude Determination changed based on spin tone removals?	10/19/2009	Hannes	1	Hannes	In progress. Hannes will process See 3023.	
2074c	quality flag for FGM data		Vassilis	2	Hannes	on hold	
2082a	Spin modeling during shadows BugZid=43		Vassilis	2	Hannes	Jim L to write routine. Hannes send info.	
	Aaron						
2033	VMO file generation (EFI and SCM)		David	1	Aaron		
2033a	One variable change to ASI files and possibly the whole repository		David	1	Aaron		
2033b	SCM L2 numerical files		David	1	Aaron		
2033c	EFI L2 numerical files		David	1	Aaron		
2033d	V03 L2 STATE - revision needed		David	1	Aaron		
2013	2-D, 3-D slices enhancements						
2013h	Main: Temporal slider Bar - completed Export to .png file - eta 4/23 Allow for use outside GUI - completed	11/13/2009	Vassilis	1	Aaron	review with Vassilis	
2013j	Plotting: Contour lines Display min/max Title information (same as old slices code) Specify x,y,z ranges Axes titles Axes ticks Plot ESA boundary		Vassilis	1	Aaron	on hold until 2013h completed	
2013k	Create our own version of slicer3.pro that can take user input to setup colors, orientation, etc. when it's called.		Vassilis	1	Aaron	will be completed when 2013h completed	
2013l	Integrate our own slicer3.pro gui with regular 2-D slice plots.		Vassilis	1	Aaron	will be completed when 2013h completed	
2013m	User's Guide write-up and then review with Xuzhi		David	1	Aaron		
3042	33. QA: GUI panel options -- only updates panel titles on startup.	1/15/2010	Aaron	1	Aaron		
3046	Fix labels/change coords for on-board moment velocity plots. Data is DSL, label says GSM	1/25/2010	Vassilis / Miyashita	1	Aaron		
3014	We don't have support for filled symbols. This means symbols are	12/11/2009	Pat	2	Aaron		1 day
3016	There is no way to control the variable font size from the variable panel. There was a barrier to adding features to the variable panel when this came up before, in terms of a design that was too complex to modify reliably. When I fixed some previous bugs in this panel I simplified the code considerably. I now think that adding this feature is feasible.	12/11/2009	Pat	2	Aaron		1/2 day
3031	GUI Overview plots sometimes have diamond shaped artifacts in the sample rate bar. Should fix.	1/5/2010	Vassilis	2	Aaron	This is a side-effect of the a way that symbols are used as a hack to generate the sample rate bar. Fix after 3014 is fixed.	
3001	I'm getting a crash in the calculate window after I delete the text in the program area and then click on a data quantity from the tree. The error message is below.	12/7/2009	Aaron	2	Aaron	found during EFI testing	
3079	110. GUI -- spinner widget, inconsistencies between actual and displayed value for very small numbers	2/12/2010	Pat	2	Aaron	Support exponential notation for very small values	
3079a	Spinner Part	2/12/2010	Pat	2	Aaron		4-5 hrs
3079b	FormatAnnotation Part	2/12/2010	Pat	2	Aaron	The format routine is incorrectly deciding the # of significant digits in a number when using decimal format. I think this may have been done originally for simplicity but it should be fixed	6-10 hrs
3083	137. GUI spinner controls -- when inputing value >= 2^16/2 in grid thickness spinner, causes error message and value reset to -32768. Pat: Problem is not the spinner. Object definitions using short ints when long ints should have been used.	2/16/2010	Pat	2	Aaron	Probably short data type used where long required, affects many of the spinner controls	1-2 hrs
3084	139. GUI variable options -- more status bar/history window updates needed.	2/16/2010	Aaron	2	Aaron	the only message that ever printed was "1: Cannot Set Value variable, no variables"	1 hr

2027e	Finishing the coordinate transformation of the thm_load_state data at input, to include transformation of spinaxis attitude, need to determine keyword switch, implement the rotation of the spinaxis elevation/azimuth from gei to arbitrary coordinates (consult with Pat, Vassilis)		Vassilis	2	Aaron	not allow velocity to go bad	
1579	When importing a variable with a valid 'V' component in its data struct, but no spec flag set in its meta data, the loaded data object fails to load the y-axis. This should be fixed, as it ends up incorrectly loading certain spectral quantities.		Pat	3	Aaron		
2121	When thm_load_fit is called requesting a single data type it will also return some auxiliary data types. For example: thm_load_fit,probe='b',datatype='fgs' returns: 1 thb_fit_code 2 thb_fit_npts 3 thb_fgs. load bug or test script bug) b. The relpathnames all keyword is broken.			3	Aaron		
2028	Variable units – generic solution - thm_load_spin, _state, _hsk, _sst, _esa, _bau, _fgm, _fbk, _fft, _fit, _scm, _efi, _trg, _asi, _gmag, _ask, _mom, _esa_pkt		Vassilis	3	Aaron		
2029	From Hannes		Hannes	3	Aaron		
2029a	Provided is the most common plot used by scientists that look at magnetic field data. Four panels Bx By Bz Bt and the position X Y Z as variables. Often the radial distance R is another variable. It would be great if someone enters e.g. tplot,'tha_fgs_gsm' such a useful default plot would appear. I am currently not able to produce such a plot using tplot. Another useful plot would be instead of one trace per panel, 5 traces per panel. One for each spacecraft and 5 sets of positions as variables at the bottom. For example: tplot,'th?_fgs_gsm' could produce such a plot. Also some standard plots that combine ground and spacecraft data could be useful. Notes from Vassilis: define keyword /positions default 'none', allow GSM X Y Z, R Lat Long,.....		Hannes	3	Aaron		
2029b	The level 2 CDF files at http://themis.ssl.berkeley.edu/data_download.shtml should contain position in various coordinate systems as well. Preferably in the same resolution as the data. Otherwise Scientists need to get the position from another source. Notes from Vassilis: option to introduce the data in RE with keyword (one RE =6,478 kilometers ???). Like thm_load_fgm /pos_units= 'RE'. Also thm_load_state keyword out_coord = 'GSM', 'GSE',...etc.		Hannes	3	Aaron		
2029c	If one loads fgm data from probe 'a' and let's say there are no data for the chosen interval. The variables tha_fgl and tha_fgl_gsm etc. should all be empty. It could be those variables still contain data from the previously loaded interval.		Hannes	3	Aaron		
2030	upgrade thm_load to work with probe assignments		Vassilis	3	Aaron		
2031	move functionality of thm_load_state2 into thm_load_state and delete thm_load_state2		Vassilis	3	Aaron		
2032	Multiple enhancements concerning keywords, valid_names and thm_load routines		Vassilis	3	Aaron		
	Cindy						
	Jim L						
3037	Support new apid 44F (survey FFT) in tmtools L0 packet processing code.			1	Jim L		
3038	Update sample timing code to be compatible with apid 44F decimated FFTs.			1	Jim L		
4043	Paper on intersependentcies of FGM and STATE Reprocessing	4/19/2010	Pat	1	Jim L / Jim M		
4044	Reprocess STATE so Jim M can reprocess FGM from 8/17/09	4/19/2010	Hannes	1	Jim L / Jim M		
3089	The old spin period data (which is close to what was assumed on board by the IDPU) needs to be corrected to reflect that precisely also during the eclipse. This is now interpolated during shadow to avoid spinphase jumps at the ends, but should be corrected to reflect what the IDPU was thinking based on housekeeping (spinper differs by ~msecs but this adds up quickly). This can be added into the same spinper file if it does not increase file size much. (Else represent the differences). Following subtasks remain:	2/22/2010	Vassilis	1	Jim L	eclipse sun pulses - shadow correction - test data created - Vassile 4/22: First I care about the Feb 13 flyby. Can you ensure the processing is done properly there, using the QA. The FGM processing of L1 should agree with TUBS's assessment and they should be responsible for comparing and validating. In parallel please notify Jim McFadden that the dphi is available for him in the QA, to change his DF's.	1 week
3090	Then one needs to correct the particle distributions to be introduced in the same orientation. I.e., should use the corrected spinphase upon being introduced (on the fly). This means the particle loading software needs to read the above difference between corrected and uncorrected spinphase, and apply a rotation to the distribution functions upon reading. This should be done with a keyword first, and routinely when we get into orbit (by which time the shadow spinphase determinations will hopefully be automated). I think McFadden is the one to do this but he can also assign it.	2/22/2010	Vassilis	1	Jim McFadden	3089 is prerequisite - Vassilis 4/23: un-rotate the V's from the dphi and the onboard spinphase) and compare with the ground-processed V from the distribution functions. ESA and MOM code to use new features of spin model. Possibly Jim M	
3070	VC->L0 processing issue for outer probes	2/10/2010	Jim L	1	Jim L	Preliminary review completed	
4033a	Add solar wind mode flag to L1 MOM	4/12/2010	Team	1	Jim L	let Jim M know when done	
3097	Enhance L0->L1 processing script to update V03 state, if present, along with V01 and V02 state.	2/23/2010	Jim L	1	Jim L		2 days
4041	build new tmtools release 6_20 with support for 44f data. It would be nice to have this in place, tested and ready to go, when the IDPU FSW patch is uploaded to the first probe.	4/15/2010	Jim L	1	Jim L	3097 is a pre-requisite	
4030	cross-check SST psir6 and psif data types for excess counts in psir6	4/8/2010	Jim McFadden	1	Jim L		2 hrs
4027	In reviewing the metadata in these GOES masters, it seems the value of the global attributes TEXT has gotten cut off	4/5/2010	Tami - SPDF	1	Jim L		

3099	there is a plan to change the format of the apid 410 spin fit packets (data type FIT). Since we're going to be heavily decimating the apid 453 (MOM) packets, which contain the spacecraft potential with each sample, the science team would like to get that information via a different apid. So there's a proposal to put the spacecraft potential in the spin fit packets instead (replacing the EFI-Z component of the E spin fits), so we'll still get it once per spin. This will require changes to both the L0->L1 server-side processing, and the client-side TDAS code.						
3041	Update overview plots to handle survey FFTs?			1	Jim L		
2149g	write a routine to check time tag monotonicity and repair tplot variable if necessary (with options for "replace with NaN" and "delete")		Jim L and Michael	1	Jim L	assign when 2149e started. Michael: Since it is difficult or impossible (in post-processing) to identify all of the bad time tags (or even some of them -- e.g., the fast->slow case), I recommend that we just remove what is needed to make the time tags monotonic, and issue a warning indicating that the user should consult the THEMIS software team about that data.	
2266	Timing of Spin Fit data	10/16/2009	Jim McFadden	1	Jim L		
3051	EFW spike removal	2/1/2010	Vassilis	1	Aaron	Aaron will forward email	
3048b	spinmodel_interp_t loops over each time segment individually. If we vectorize this operation, we could get serious speed increases. Would generate speedups EFI and for other calibration routines.	1/25/2010	Pat	1	Jim l		
2149h	integrate time tag fixer-upper with TDAS load routines		Jim L	1	Jim L		
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	1	Jim L	see 2149g and h	
4020	Respond to SPDF's email concenring L1 cdf's. Include words as to what is in the L1 cdf's that are not in the L2 cdf's that users may want to use.	3/25/2010	David	1	Jim L		
4008a	He requested some extra datetime formats. A. Numerical month & time (ie 2007-03-23/00:00:00). this option isn't listed.	3/12/2010	Pat from a scientist (Martin Connors?)	1	Jim L		2 hrs
4008b	He said there is an ANSI standard to separate date & time using a capital T and requested the option to put datetimes in this format. (ie '2007-03-23T00:00:00')	3/12/2010	Pat from a scientist (Martin Connors?)	1	Jim L		see above
4016	Our "save data as" menu doesn't remember the previous directory > that the user saved to. It could and it should.	3/12/2010	Pat from a scientist	1	Jim L		1 hr
4019	L1 FFT's split the variable into different data sources	3/25/2010	Jim L	2+	Jim L	Discuss with SPDF at the next meeting whether having one variable with multiple data sources is difficult for them	
4022	Update L1 master cdfs to support SPDF hosting	3/25/2010	David	2+	Jim L		
3093	Automate processing of eclipse sunpulse data from FGM team	2/22/2010	Jim L	2+	Jim L		3-4 days
2082a	Spin modeling during shadows BugZid=43		Vassilis	2	Hannes	Jim L to write routine. Hannes send info.	
2035	Split L1 ESA (using Thomas's routine) in master ESA data cdf		Vassilis	2	Jim L	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).	
2036	GOES 10-12 Test data: h. update labels (Howard's request - minor tweak)		Vassilis	2	Jim L	determine if to be reassigned	
2038	STATE Web Page (s)		Vassilis	2	Jim L	review web pages	
2039	bad timing sun pulse times (early January 2009)		Vassilis	2	Jim L	Clarification needed	
2040	L1 Data Processing History Info: SCM, EFI, STATE		Vassilis	2	Jim L		
2043	Refactor repeated CDF library code in CDF processing tools BugZid=50		Vassilis	2	Jim L		
2046	Create a more efficient & productive prototype QA Instrument Command Line Script - first template (s) functional blocks then scripts for FGM, ASK, SCM, FIT, MOM, ASI, EFI, FFT, FBK, Gmag, State, SST, ESA		Vassilis	2	Jim L	In progress. Several templates created, selecting the appropriate command line routines to test.	
2047	Separate E and B timestamps for spin fits: a) make a revised V02 master CDF with E and B separated b) change thm_load_fit to support V01 and V02 of the L1 CDFs c) change the L0->L1 processing code d) change the L1->L2 processing code e) test the changes, then reprocess to create the V02 CDFs (keeping the V01 files around for a while to ease the transition) BugzID=45		Vassilis	2	Jim L	Discuss with SPDF whether having one variable with multiple data sources is difficult for them	
2047a	FGS sample times and values, showing repeated timestamps. BugzID=113 (BugzID=67 must be done first)		Vassilis	2	Jim L		
2047b	Repeated timestamps and gaps in spin fit data BugZid=113 (#67 may fix this one as well).		Vassilis	2	Jim L		
2077	Non Monotonic timestamps. BugzID=72		Vassilis	2	Jim L		
2078	bau_sunpulse_met assumes x86 endiannes (BugzID=13)		Vassilis	2	Jim L		
2047	task 2047 in my name: "Seperate E and B timestamps for spin fits", which is also a change to the L1 FIT master CDF and associated TDAS code. But unlike the spacecraft potential enhancement (which only adds new CDF variables, and is more-or-less backward compatible), 2047 would require us to bump the L1 FIT CDF version number to V02, and produce both V01 and V02 for a while, so users of TDAS 5.20 and earlier will still be able to load L1 FIT data. So I'm not sure whether the spacecraft potential task should include 2047, or not.	3/2/2010	Jim L	3+	Jim L		
4023	Before EOM reprocess L1 cdf's due to master cdf changes for SPDF	3/25/2010	David	3	Jim L		

2080	Phantom packets" cause non-monotonic distribution times. BugzID=25, low priority.		Vassilis	3	Jim L		
2081	Evaluate CDF compression algorithms BugZid=81		Vassilis	3	Jim L		
2083	Add "last processed" time to L1 (and L2?) CDFs BugZid=115		Vassilis	3	Jim L		
2084	. transforming one data point from SM coordinates to GSM coordinates. ct=time_double('2008-02-16/04:50:00') dipole=[[0],[0],[1]] v=[1,2,3] store_data,'dipole_sm',data={x:ct,y:dipole,v:v} cotrans,'dipole_sm','dipole_gsm',/SM2GSM cotrans,'dipole_gsm','dipole_gse',/GSM2GSE get_data,'dipole_gse',data=dipole_gse xdipgse=dipole_gse.y[0] ydipgse=dipole_gse.y[1] zdipgse=dipole_gse.y[2] tilt=atan(xdipgse,zdipgse) When I check the data for 'dipole_gsm', the values are 0,0,0. I'm not sure what they SHOULD be, but I know that their magnitude should equal 1. sqrt(x^2+y^2+z^2)=1		Christine	3	Jim L		
	Jim M						
4043	Paper on intersependentcies of FGM and STATE Reprocessing	4/19/2010	Pat	1	Jim L / Jim M		
4044	Reprocess STATE so Jim M can reprocess FGM from 8/17/09	4/19/2010	Hannes	1	Jim L / Jim M	ESA, MOM and FIT L2's for the last 8 months, due to differences in the FGM's and coordinate transforms.	
2056	SCM L2 cdf		Vassilis	1	Jim M	Few more tweaks and new Test data will been sent to Olivier, possibly start processing soon	
2225	L2 EFI cdf (quality flags)	8/31/2004	Vassilis	1	Jim M	Test data sent to John B for review by 5/1	
4004	Sort out if TDAS software can run off SPDF cdf's	3/5/2010	David	1	Jim M	Jim M needs to check if zeros directory online	
4033b	Add solar wind mode flag to L2 MOM, ESA and SST and then reprocess.	4/12/2010	Team	1	Jim M	Pre-requesite 4033a (Jim L)	
3099d	Revise thm_load_fit (command line and GUI) to load the additional L1 variables.	3/2/2010	Jim L	1	Jim M	pre-requisite 3099c test data (Jim L) and awaiting FSW patch from PRH to create test data for 3099-d	
3099e	Revise thm_cal_fit, and thm_cal_efi to do the right thing when EFI-Z is not present.	3/2/2010	Jim L	1	Jim M	pre-requisite 3099c test data (Jim L) and awaiting FSW patch from PRH to create test data for 3099-d - in progress	
3099f	Revise the calibration code for the particle data types (ESA, perhaps also SST or MOM?) to look for spacecraft potential in L1 FIT, if the moments are decimated	3/2/2010	Jim L	1	Jim M	pre-requisite 3099c test data (Jim L) and awaiting FSW patch from PRH to create test data for 3099-d	
2057	SCM CAL File Processing Doc		Vassilis	1	Jim M	Document sent to Olivier for review.	
3064	47. CL specplot -- missing peib data for tests 25 and 26	1/15/2010	Jim M	1	Jim M	Data exists, but isn't plotted for some reason.	tbd
4036	thm_load_fit doesn't like 'f' (flatsat) as a probe letter. Fine, that's easy enough to fix, so I edited my working copy. Next hurdle was thm_cal_fit -- 'f' isn't valid there either, because we don't have an FGM cal file for 'thf'. So I thought "fine, I'll just ask for type='raw' to skip the calibration..." But thm_load_fit seems to call thm_cal_fit, even with type='raw'.	4/15/2010	Jim L	1	Jim M		
3015	The data processing panel doesn't allow split components. This is fine for some operations, even required, but for some operations this doesn't make sense. For example, clipping. There is a good chance that some people will want to clip each component at separate values.	12/11/2009	Pat	1	Jim M	Jim M to assess only	1 week
3085	138. GUI SCM cotrans -- inconsistent results depending on starting/ending coordinate systems. Pass warning through to GUI	2/18/2010	Jim M	1	Jim M	Also should check if same problem exists with command line? Will take time to look at code to get an estimate	tbd
2227	L2 SST cdf revisions	8/31/2004	Vassilis	2+	Jim M	awaiting SST calibrations	
2288	had expected that this cotrans would occur at the very end, after all the calibration code. But the calibration itself seems to be affected,	11/12/2009	Jim	2	Jim M	see 2256	
2283	There is another aspect to this problem. Dead-time corrections are severe for ion ESA SW data and there are no dead-time corrections for onboard moments. Some algorithm will have to be developed that does this correction after the fact. Davin developed an algorithm like this for Wind 3DP. That algorithm may not work directly due to differences in energy sweeps, but something like it could be developed for THEMIS. Davin and I can provide some advice and direction. Similarly electron onboard moments in the SW may also need some corrections -- this should also be worked out at the same time.	11/2/2009	Jim Mcfadden	2	Jim M		
2058	found 3 errors in the new th*_l2_esa masters - the good news is, with them fixed in our masters, all plotting issues w/ the ESA files (in CDAWeb) seem to have been resolved.		Vassilis	2	Jim M		
2060	L2 cdf Quality Flags: for SST		Vassilis	2	Jim M		
2175	L2 File Definitions Document		David	2	Jim M		
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	Jim M		
2087	Administrator's Guide		Vassilis	2	Jim M		
2088	Themis Developers Guide		Vassilis	2	Jim M		
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		
2090	that streamlines the generation of gmag stackplots and a crib to show how to do this. (< than a day)		Vassilis	2	Jim M		
2091	Once Jim McFadden completes his mods for n_3d_new_3 reprocess L2 cdf's - entire mission		Vassilis	2	Jim M		
2092	thm_load_mom changes - reconcile mods with Davin at an appropriate time.		Vassilis	2	Jim M		

2055	ESA L2 from L1 (not packets) - create L2 and test thoroughly, then reprocess ESA		Vassilis	2	Jim M	On Hold; awaiting Jim L to split L1 into master cdf	
4002	Document: SST File and Calibation Processing	3/5/2010	David	2	Jim M		
4003	Document: ESA File and Calibation Processing	3/5/2010	David	2	Jim M		
2093	AE Indexes Issue Jan 8-12, keyograms Jan 12-13, Stripes- Vassilis: minor nuisance		Vassilis	3	Jim M		
2094	Overview plot change: mode bar seems thick		Vassilis	3	Jim M	nothing we can do easily	
2095	Mosaic Processing - permanent script needed		Vassilis	3	Jim M		
2100	EFI calibration		John Bonnell	3	Jim M		
2100d	DC offset between 4sdo and 2sdo in boom plane		John Bonnell	3	Jim M	Which is better? Assigned to J. B. (low priority).	
2100h	Try to track down frequency scaling problem in DPWRSPC (dlimit setting? Compare to old plots?).		John Bonnell	3	Jim M	On Hold - low priority	
2100p	Modify THM_CAL_FIT to treat efs datatype - Install E12/E34 conditional based on th?_fit_code TPLOT variable. If E12 switched to E34 software needs to be revised to handle		John Bonnell	3	Jim M		
	Pat						
2069	Support Mirror Sites		Vassilis	0	Pat		
2069a	Japan (ISAS)		Vassilis	0	Pat		
2069b	Austria		Vassilis	0	Pat		
2069c	France		Vassilis	0	Pat	(Rumi - not always up to date for gmags)	
2070	Support gmag data remote sites.		Vassilis	0	Pat	The -12 days ones are ones that Kathryn indicated are on the fritz: BMLS,UKIA,HOTS,PINE.	
2070a	Augsburg (MACC's)		Vassilis	0	Pat		
2070b	Alberta		Vassilis	0	Pat		
2070c	Greenland		Vassilis	0	Pat		
3033	GBO rsync from U Calagary is failing. Contacting Emma Spanswick to determine source of problem.	1/5/2010	Pat/Jim M	0	Pat		
3034	Rsync to GIMA server is failing. Ualaska Server was replaced and renamed.	12/7/2009	Jim M	0	Pat	Working out problems with SSH public-key authetication...maybe try http.	
2265	When new FGM Cal files come from David Fisher reprocess last 6 months.	10/16/2009	Pat	0	Pat	ongoing	
3025	SST Code development	12/18/2009	Davin	1	Pat		
3025a	Determine scales and offsets for correcting on-board moments to match ground based moments during solar wind mode.					plots sent to Vassilis	
3025b	Determine when spacecraft is in solar wind mode, and apply corrections.					awaiting Jim L 4033a	
3055	Debug source code from Davin to determine source of crash	12/18/2009	Davin	1	Pat	waiting for receipt of code from Davin. He said that it crashes on 1/10 days but doesn't yet know why.	
2280	Retrieval of ASCII Data - Including 2009.	10/29/2009	Laura	1	Pat		
3029	This happened on a fresh session after loading all L1 EFI variables for 2009-02-09 probe C and attempting to plot the fast survey data (I had similar problems last month plotting EFI wave burst data). The plots still appeared in the draw window after Layout Options crashed, but panel tracking was off, the gui ran very slow, and even after removing some deleting variable to free memory I had to reset IDL to get everything working. Traceback Report from THM_UI_LAYOUT_OPTIONS_EVENT:	1/4/2010	Aaron	1	Pat		
4028	Since we can't fix problems with IDL's printer support, but frustrations with IDL's printer support seem to be a common problem among users, we should probably create a popup warning that tells users to use the file->export to image menu, if they have problems with printing.	4/6/2010	Vassilis	1	Pat		
2136	When we implemented tplot_gui, we gave it support for the most important tplot options, but not many of the more obscure ones. It might be worthwhile to create a task for someone to go through exhaustively and implement as many tplot options as is feasible. That way people can more easily use the gui like an interactive version of tplot. Right now I feel like the more obscure options end up leading to gui plots that still look reasonably different from tplot plots.		Pat	1	Pat	in progress	
3043	36. GUI interpolate -- error with multiple quantities selected and one is out of range -- bad item not skipped, following items not processed.	1/15/2010	Pat	1	Pat	#2 Loaded data for data 2007-03-24. Types: efi_vaw, tha_fgl_dsl,tha_fgh_dsl. Make all data active. In the order above(I believe exact order is important). Open interpolate panel, select "cadence" radio button, leave at default, select limit time, leave at default for quantity vaw(2007-03-24/22:47:06,2007-03-24:22:47:22). Select "Okay", it processes first quantity, then second quantity is out of range, produces error but does not process 3rd quantity(fgh). It should skip over #2.	
3044	38. QA: GUI interpolate -- Interpolating state data to match efi_vaw, "data out of range" error if no state samples fall within the efi_vaw time range.	1/15/2010	Pat	1	Pat	#4 Date 2007-03-24, data efi_vaw, tha_state_pos. Make state active. Select "interpolate", select "match" match to quantity "efi_vaw", select "extrapolate" Select limit time range, select range for efi_vaw (2007-03-24/22:47:06,2007-03-24:22:47:22): Says no data in range. What is happening here is that there are state points on either side of the vaw interval, but no points inside the interval. Perhaps one possibility where time is limited & matching is being done, maybe it should limit based upon the range of the match quantity and not the range of the target?	
3048a	Profiled EFI calibration can speed up by reducing the number of calls to spinmodel_interp_t. Right now >95% of time is spent in spinmodel. It calls spinmodel_interp_t 2x for each 3d data type, could probably use a single call for multiple data types with the same cadence.	1/25/2010	Pat	1	Pat		
3052	The last time we have GBO data is 1/12/10	2/2/2010	K. Rowe	1	Pat		

3058	The size of the windows created by the widgets in IDL for the SCM instrument are too big (at least they were on mine). It was easily remedied by changing the size of the boxes allocated in the probe/Level-1/Level-2 lists in the program thm_ui_scmcal.pro. I simply altered the value passed to the YSIZ keyword in the WIDGET_LIST function call (lines 610 - 628, I think).	2/5/2010	Lynn Wilson	1	Pat		
3068	120. GUI GMAG -- cotrans error, says coordinate system is undefined	2/11/2010	Pat	1			
4012	When Cindy & I tried to load tha_eff on 2007-03-23, it didn't load and said some calibration quantity couldn't be found. When I tried to load the same thing, I didn't have a problem. So the trick would be to find out what changed from my computer to Cindy's computer and to figure out how often our user's computers are going to have the same problem that Cindy's computer had.	3/22/2010	Pat	2+	Pat	**Jim M: I have no trouble with EFF data either for linux or windows.**	
4045	For the beta and official sites we want to add a button at the bottom to the right of the existing two buttons. Official site web page url: http://themis.ssl.berkeley.edu/summary.shtml?autoload=1 Please center the 3 buttons. The new button will have the words “Plot Descriptions” and if clicked will link to the following: ftp://apollo.ssl.berkeley.edu/pub/THEMIS/3 Ground Systems/3.2 Science Operations/Science Operations Documents/THEMIS Summary Plot Description Tables	4/19/2010	Pat	2	Pat		
3053	102. Tplot_gui -- overwrite warning when importing data, even if variable gets renamed.	2/3/2010	Pat	2	Pat		
2115	tplot does not fail gracefully after illegal margin set. In this case: tplot_options,'xmargin',[100,100], tplot does not fail gracefully after illegal margin set. In this case: tplot_options,'xmargin',[-1,-1] -tplot does not fail gracefully after illegal margin set. In this case: tplot_options,'ymargin',[100,100]			2	Pat		16
2267	if you want to load a template, you need to pass the template path in via a keyword, or select an option to open it from the THEMIS->File Menu. I think we should consider adding the template path to the configuration file that we save, so that it can be loaded automatically.	10/19/2009	Pat	2	Pat		40
4013	Plot Description Doc Button	3/22/2010	David	2	Pat		
2176	I ran into a small annoyance today when loading a themis document. I had originally loaded ESA and SST data for one time period, then overwrote that data by loading the same quantities but for a different time period. I did this several times and then saved the document for later. When re-opening the document I got a series of prompts asking whether I would like to re-write each quantity. It would speed up and streamline the process in this case if data that was later overwritten is not loaded when you open the document.	7/20/2009	Aaron	2	Pat	I spoke to Pat about this yesterday and we both agreed that while we cannot be sure which quantities should be re-loaded and which shouldn't (some may have been used temporarily for calculations). However, we can store the users's original choice to overwrite the data or not. So while we may not be able to save on loading time we can still keep the user from having to click multiple messages and from having to remember what they chose originally. The latter is particularly important since they may receive errors or get corrupted data if they do not choose the correct option	
2201	One feature that was never implemented for the mini-language is globbing.(The ability to use '*' and '?' to reference multiple tplot variables at once.) This is a feature that is standard with many of our other tplot data processing routines. I think it would be very useful to include in the mini-language.	8/5/2009	Pat	2	Pat		
2187	I noticed a bug in the x-axis options panel. It probably also applies to the y-axis options. If the set-all button is selected on the grid tab, then changing panels doesn't update the settings on the grid tab to the settings currently displayed for that panel.	7/29/2009	Pat	2	Pat	set to most recent user action for all routines	
2041	thm_load_state out_coord velocity calculations wrong		Vassilis	2	Pat		
2285	Christine brought to my attention a bug that occurs if you use the TDAS tsyganenko routines in a way that is not really something that I expected, but seems to be a legitimate use of the routines. If passing in a set of input parameters that are stored in tplot variables but are not in time-series, the routine produces incorrect results.	11/4/2009	Christine	2	Pat		
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	Pat		8 hrs
3091	Add a configuration setting "force_download", which if enabled, will download data even if the remote file is older than the local file. This comes up if you're switching back and forth between using QA data and production data; once you've downloaded QA data, it's hard to download (usually older) production data without manually removing any QA files. This should apply to all data sources -- THEMIS, GOES, WIND, etc.	2/22/2010	Vassilis	2	Pat		4 hrs
3065	68. GUI z-axis options -- when Fixed Min/Max selected, value in spinners does not reflect current range as it does for X and Y axes. Displayed range when spinners desensitized is inaccurate.	2/10/2010	Aaron	3	Pat	chech draw object	
4005	The TDAS Software will be enhanced to incorporate data from the STEREO mission.	3/8/2010	David	3	Pat		
4006	add the following ancillary ground-based observations: MAGDAS Network, Auroral Electrojets (AE) and Ground Radars (SuperDarn, AMISR and Sondrestorm)	3/8/2010	David	3	Pat		
3007	EPO-GMAG msgs: modify the script and only issue this message if > 2 days	12/8/2009	David	3	Pat		
2279	How's it going with the stats? I noticed the query takes some time because it's looking at the whole table. It could be refined for specific time periods. The delay in return could be what's causing Dave to have access problems - or the SSL firewall?	10/23/2009	Tim	3	Pat	see 2277	

2135	I didn't realize the cotrans messed up the velocities for earth centered coordinates. Maybe what we really need to do is modify cotrans so that it correctly transforms velocities. Users can incorrectly transform velocities just as easily using thm_cotrans on the command line, as they can using the coord keyword.		Pat/Jim L	3	Pat		
2124	I loaded a plot which had the line color as white. Because the legend plots in the same color as the line, the legend text did not show up. We should probably just put in a check for this case. If the line is white and the background is white then draw the text in black		Pat	3	Pat		
2063	Problem with edit3dbins is being caused by IDL's mouse system variable not being updated correctly on Macs. The ctime procedure, used to interactively select a time from a tplot window, relies on this variable to determine when a selection has been made in the tplot window. If the variable is never updated then ctime gets caught in an infinite loop. It's unclear whether this is specific to a particular OS version, but the routine should probably be modified at some point to maximize compatibility with Macs. In the meantime the alternate method of calling gettime that I copied you on yesterday should provide a temporary way around this bug.		Aaron	3	Pat	verify note in quick reference guide and then task will be closed	
2106	Add the ability to right-click on a variable in the widget-tree and display a popup with basic information about the quantity such as dimensions, range, or other meta data as well as the ability to rename variable		Pat	3	Pat	originally part of task 64, however, after further evaluation, it was determined this best belonged with the widget tree rather than the analysis window	4-8 hrs
2220	I found a small bug in the z-axis panel in the gui. If I change the z-axis annotation size of a layout with 2-panels each with one spectrogram, when I apply this change, it gets applied to both panels, even if set-all is off.	8/27/2009	Pat	3	Pat		4 hrs
3063	40. CL tplot options -- setposition test plots all look the same	1/15/2010	Pat	3	Pat	Long-standing tplot bug, may not ever be fixed	
	Misc						16-24 hours
447	Save THEMIS document: Attempting to save to a read only file in Windows outputs the correct error message, but IDL crashes immediately afterwards.			1		IDL Error report to ITT	
							4 hrs