

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								
4744	Add combined ESA/SST moments capability to new particle routine	07/24/13	Pat			I was talking to Drew about particle stuff yesterday and we got to talking about how our goal for THEMIS particles should be combined ESA/SST particle products. (Spectra and moments) Doing this for spectra should be pretty easy with the new routine. (Just pass in a concatenated structure and it should work.) Doing this for moments would be pretty tricky in the current configuration because it makes a lot of assumptions about the particular instrument that it is working with. But Aaron and I were thinking that we could probably add moments capability to the the new particle routine pretty easily and this could be done in a way that was sufficiently generic that it would not choke on a combined particle distribution struct. I don't think it would be more than a week for one of us to do this.		
4745	tplot_ascii formatting bug	07/25/13	Andre Runov			<p>He was trying to print spectral tplot variables with values a few values that are very small negative numbers. (e.g. -1.23456789e-14, caused by round-off error in operations that would ideally be producing a result that is zero.) What he found is that the spaces between the columns can disappear which breaks parsing when he tries to read the values back in.</p> <p>#1 This should be fixed. It should detect if it needs additional space to write a number and use wider columns.</p> <p>#2 There is no keyword in tplot_ascii to manually control formats. There should be. (The workaround I gave him was to edit tplot_ascii.pro, obviously no ideal)</p>		
4746	Crash in moments_3d	07/26/13	Pat			<p>I was accidentally using values in the energy extrapolation that went too high and the extrapolations in my sst code generated values that were quite a bit too large.</p> <p>When passed into thm_part_moments I got a crash:</p> <pre>% TRIQL: Too many iterations in tqli. % Execution halted at: MOMENTS_3D 330 /home/pcruce/IDLWorkspace82/TDAS/idl/ssl_general/science/wi nd/moments_3d.pro % THM_PART_MOMENTS 297 /home/pcruce/IDLWorkspace82/TDAS/idl/themis/spacecraft/parti cles/moments/thm_part_moments.pro % \$MAIN\$</pre> <p>The issue occurs because particle routines use floats and the numbers grew big enough during the calculation that they rolled into +-inf, which broke the routine that finds the eigenvalues/vectors for the moment matrix. The Particle routines intentionally use floats for storage because it saves memory. I say that this is not a big issue because the inputs were probably large enough that they wouldn't ever come up (correctly) for earth physics, but they weren't *that* far outside realistic ranges either. It would be preferable if the routine outputs a value (like infinity) or terminates with a clearer error message. Possible solutions would be to put a catch block in for the error, check the moment matrix for invalid values before triql, or cast to double before the operation and cast back to original data type afterward.</p>		
4747								
4748								
4749								
4750								

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
	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	5-24-2013 Updated for 2012-12-01 – 2013-02-21, tha, thd, the		
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							
4719	ESA energy table updates – TDAS mods (ESA packet processing, calibration, summary plots, etc)	8/2/2012	Jim L	1	Aaron			
4711a	Getspec rewrite, sanitize ESA	05/23/13			Aaron	Convert to physical units, standard internal representation, strip extraneous fields to save memory		
4711c	Getspec rewrite, Apply theta,energy,phi limits	05/23/13			Aaron	disables bins based on user specified limits		
4711g	Getspec rewrite, Make PA/Theta spec	05/23/13			Aaron	Tracking down last few discrepancies (e.g. fringing)		
4711h	Getspec rewrite, Make Gyro/Phi spec	05/23/13			Aaron			
4711i	Getspec rewrite, Make En spec	05/23/13			Aaron			
4740	Getspec rewrite, bells, whistles, keywords etc.	07/08/13			Aaron	~1 week work remaining		
4741	Getspec rewrite, GUI modifications to support new code	07/08/13			Aaron			
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. 7/08/2013: Good feedback from Stefan, seems to be working well, one or two minor issues to confirm with Aaron B.	1 hr	
4314d	combination of ESA and SST data could only be done in the Geometric mode. Would be great if it could be done in other modes as well.	8/11/2011	Xuzhi	4	Aaron	on hold, after mods to support combined ESA/SST moments	1 hr	
4825	Implement error estimates (/get_error) for angular spectrograms	12/10/2012	Vassilis			Needs discussion		
	Cindy							
	Ping Sasha for status of back AE station data					Pinged 7/2013, waiting for response		
4687	Check with Ian Schofield about status of Dr. Hayashi's 1-sec STEP data set.	41369	Cindy		Cindy	September 2013		
4720	Update GMAG master CDFs with correct GIMA PI credited	06/05/13	Dieter B		Cindy	Master CDFs first, data CDFs when convenient to reprocess		
4842	GUI API – Plugin access to GUI configuration settings dialog (remote, local data dirs, etc)	1/18/2013		1	Cindy	Convert to tabbed interface, like "load data" panel.		
4743	Clean up GMAG processing scripts		Cindy	2	Cindy	many variations of wget wrappers, will be much cleaner when code is consolidated.		
	Eric							
4731	Add support for loading netcdf files	06/25/13	GEM-SPEDAS	1	Eric	Implement netcdf2tplot as first step, then work with Janet Green to develop load routine for GOES netcdfs. Load routine now working for particle & mag data, working on some bug fixes, where should routines go in SVN ?		
4736	Add support for aGSM coordinates to neutral sheet model	06/27/13	Eric	2	Eric			
4724	Calendar widget should indicate valid date range	06/25/13	GEM-TDAS tutorial	2	Eric	Maybe a tooltip?		
	Jim L							
4142	issue with FGS processing - timestamps	9/30/2010	Vassilis	0	Jim L	not trivial. After 4764		
2266	Timing of Spin Fit data	10/16/2009	Jim McFadden	0	Jim L	See 4142 After 4764		

Task #	Task Description	Date Opened	Reported By	Pri	Assigned To	Notes	Estimate	A&E; crib; script; suite; UG; DevG; Qref; AdmG
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	1				
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.		
	Jim M							
4732	Rename TDAS to SPEDAS for next release	06/25/13	GEM-SPEDAS		Jim M	Issues with thm prefixes -> spedas or spd, repository organization. First step may be to rename things in the release build scripts without disturbing the repository, if practical. Make separate nightly zip file with SPEDAS rather than TDAS "branding".		
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	Scripts appear to be running but we're still seeing the old configs. Need to work with John McD, seems like a flatsat setup issue.		
	Nick							
4704	Web site code & files should be checked into SVN	5/9/2013	Jim L		Nick	Workflow to update web site might need to change to keep in sync with repository. After 4706		
4729	Investigate bug tracking/wiki support for SPEDAS developers	06/25/13	GEM-SPEDAS		Nick?	Trac & wiki installed, testing to see if it's a good fit for us or if we want something simpler?		
4738	User-friendly indication of availability of various THEMIS products over time (e.g. no L2 MOM until boom deployment)	06/25/13	GEM-TDAS tutorial		Nick?	In progress.		
	Pat							
4771	Writeup for new SST calibration	9/28/2012		1	Pat/Drew	For senior review. After 4844. Incorporating feedback from Drew & other researches. Memory footprint/processing speed significantly improved.		
4711b	Getspec rewrite, sanitize SST	05/23/13			Pat	Convert to physical units, standard internal representation, strip extraneous fields to save memory		
4711d	Getspec rewrite, FAC transform	05/23/13			Pat	In progress. Needed to test some of Aaron's code updates.		
4711e	Getspec rewrite, Regrid	05/23/13			Pat			
4711f	Getspec rewrite, Apply PA and gyro limits	05/23/13			Pat			
4740	Getspec rewrite, bells, whistles, keywords etc.	07/08/13			Pat	Adding support for new SST calibrations, about 1 week effort remaining		
4718	Add new variables to SST L2 master CDF	06/06/13	SPDF		Pat	When new SST calibrations are validated.		
4861	Code maintenance issue – GUI coordinate systems			1	Pat	But there may be a code maintenance issue since we maintain two lists of supported coordinate systems. (One in thm_ui_req_spin.pro & one in thm_ui_cotrans_new.pro I just used a comment to future programmers, but a single list would probably be more durable.		