

# Main Features description

# AMDA tutorial card

AMDA (Automated Multi-Dataset Analysis Tool) is developed by the CDPP (Centre de Données de la Physique des Plasmas), in Toulouse, France.



## Top banner, from left to right

First line:

- Help: Help pop-up window related to the selected tool.
- Feedback: Post questions or bugs.
- Logout: Quit AMDA.

Second line:

- My Data: Upload and manage your own data into AMDA.
- My Parameters: Build new parameters from the available ones.
- My Time Tables: Upload, Download and Manage your Time Tables.
- My Catalogs: Manage your catalogs.
- Plot Data: Plot data parameters available on AMDA.
- Download Data: Download the data available on AMDA.
- Search in Data: Conditional searches to build Time Table.
- Add External Data: Include parameters from remote data bases.

## Main concepts

- Parameter: A time series or a dynamic spectrum of a physical quantity.
- Time Table: Series of intervals defined by their start and stop times.
- Catalog: List of statistical values on parameters ordered with time.
- External Data: Dataset or parameter accessed from a remote database.
- AMDA tree: List of parameters available to the user.
- Local help section: Local help that can be obtained by clicking the blue (i).

Access URL: <http://cdpp-amda.cesr.fr>

## User interface

In most tool tabs, the window is split into two vertical areas. The left-hand part contains the AMDA tree, as well as relevant list of items. The right-hand part contains the tools and forms. When launching the request, the result is usually presented in a new browser tab behind the AMDA tab. Local help sections, will give useful informations related to the item: publication rules, data origin, various relevant options...

## Login Page

The login page contains the latest news (e.g., new dataset added). The «Register» link will allow you send an email to the AMDA team to request an account.

You can use AMDA as a guest, but you will lose any work (time table, parameter) at logout.

Rules of the road describes what to do if you publish data after using AMDA. Such information is also available in the blue (i) help sections.

First Visit : [Demo Tour ->](#)

A screenshot of the AMDA ACCESS login page. At the top, there's a blue button labeled 'AMDA ACCESS'. Below it, there are two input fields: 'login' with the text 'cecconi' and 'passwd' with masked characters '\*\*\*\*\*'. There are two buttons: 'login' and 'reset'. Below the input fields, there's a link 'Register->' and the text 'or test AMDA as a guest'. Underneath, it says 'login: guest' and 'passwd : your e-mail address'. Below this, there's a section 'Public Access:' with two links: 'Time Table Repository' and 'Software'. At the bottom, there's a blue button labeled 'RULES OF THE ROAD' and a text box containing: 'AMDA offers access to data provided by different Data Centers. Please follow [AMDA System and Data Use Policy ->](#)'.

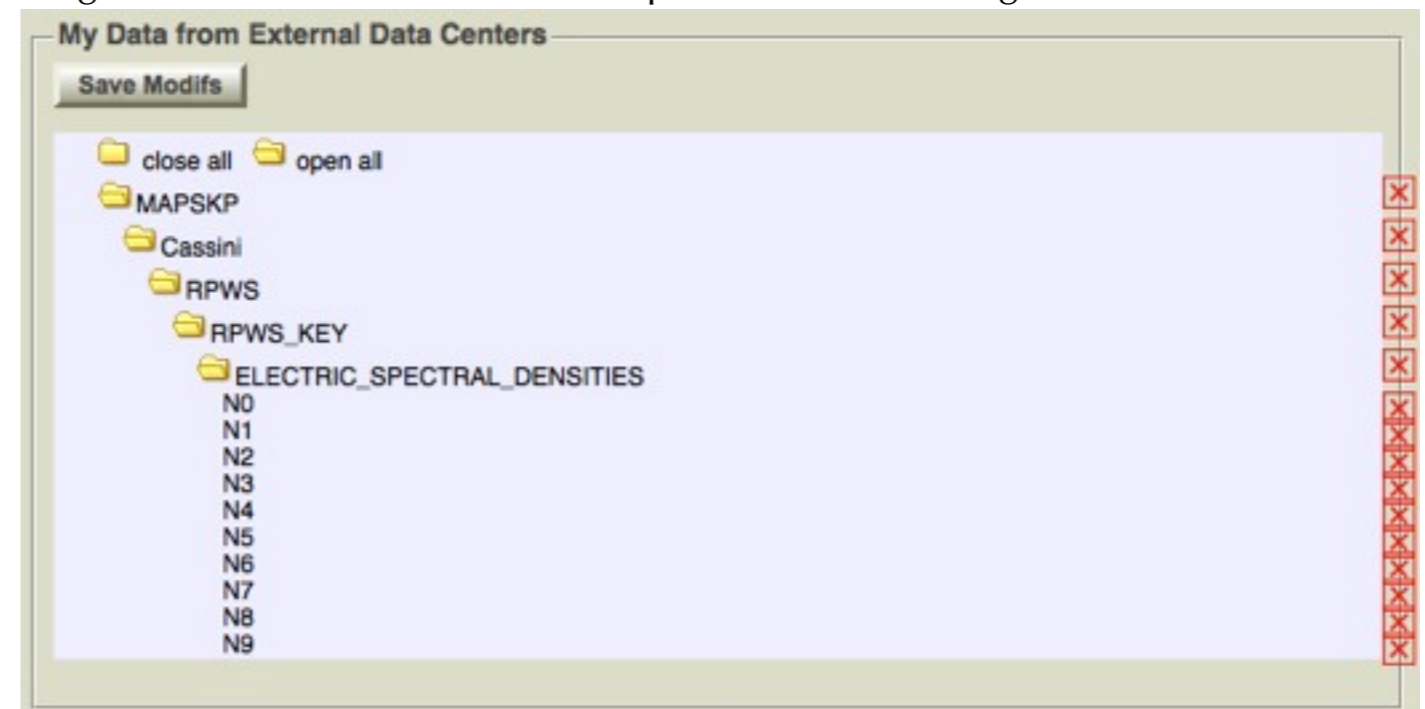
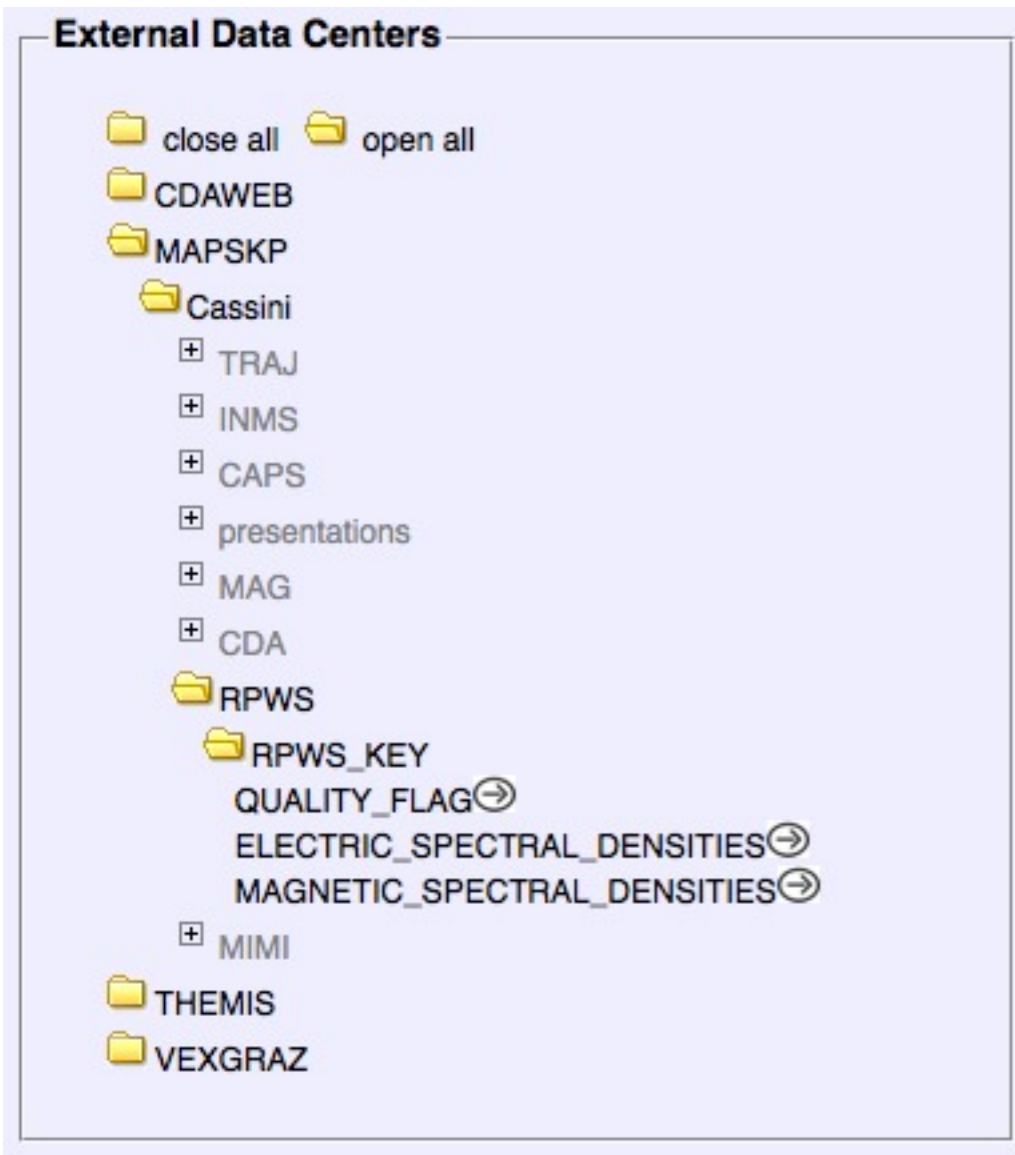
# Add External Data

# AMDA tutorial card

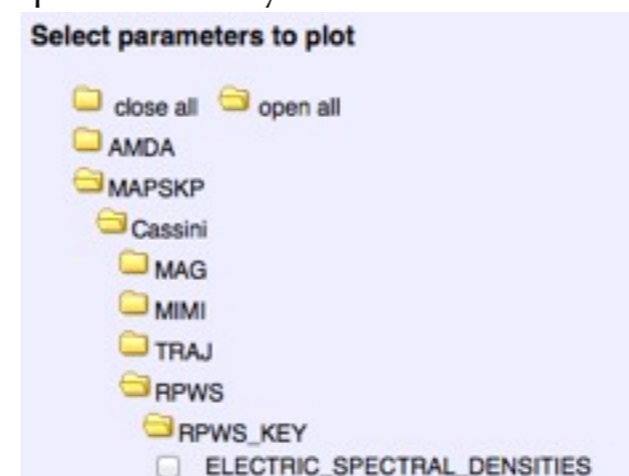
Go in «Add External Data» tab.

- In order to include external parameters into your local AMDA tree, you must first select them in the left-hand side list. For instance, if you want to add the MAPS-KP Cassini/RPWS Electric field spectral density, open the following hierarchy:  
- MAPSKP / Cassini / RPWS / RPWS\_KEY.

There are 3 parameters available. Select the «ELECTRIC\_SPECTRAL\_DENSITIES» by clicking on the arrow. This will add this parameter into the right-hand side list.



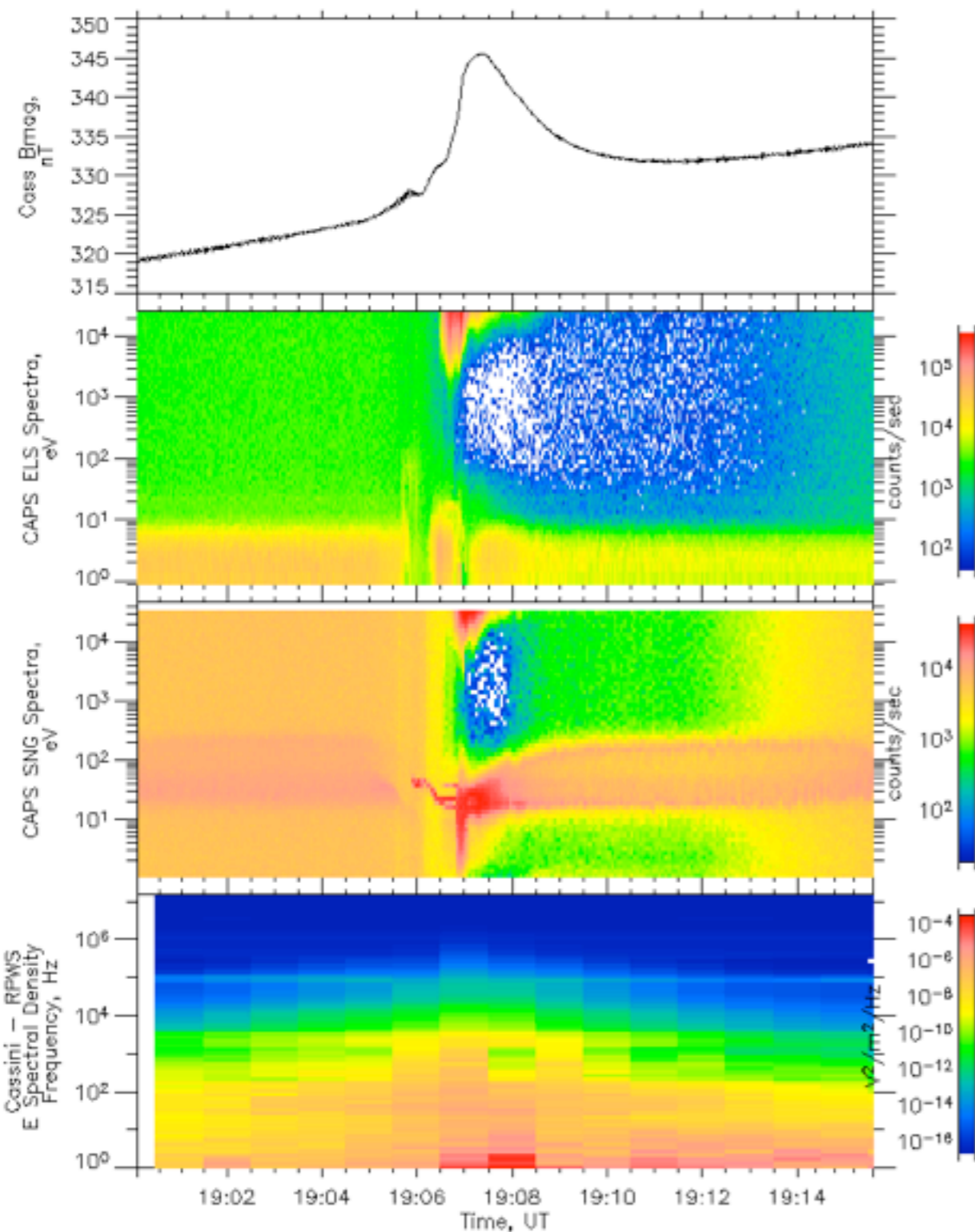
Then you have to click on the «Save Modifs» to actually validate you selection and see this parameter in your tree to use it. For instance in the «Plot data» tab:



- If you want to remove an external parameter (or a directory containing external parameters), click on the red crosses at the rightmost end of corresponding line, and click «Save Modifs» to save the modifications.

# Enceladus flybys example #1

# AMDA tutorial card



Go in «Plot Data» tab.

Parameters to select:

- AMDA/Cassini\_Public/MAG/KRTP\_HighRes@PDS/b\_mag
- AMDA/Cassini\_Public/CAPS/els@PDS/spectra\_anode\_4
- AMDA/Cassini\_Public/CAPS/sng@PDS/spectra\_anode\_4
- MAPSKP/Cassini/RPWS/RPWS\_KEY/ELECTRIC\_SPECTRAL\_DENSITIES<sup>(1)</sup>

The «Plot Request» panel should look like this:

Plot Request									
D&D	N	Parameter Name	Arguments	Plot Size		X Data Range		Y Data Range	
				Width	Height	Xmin	Xmax	Ymin	Ymax
<input type="checkbox"/>	X 0	cass_bmag_krtphr		1	0.2	0	0	0	0
<input type="checkbox"/>	X 1	cass_caps_elssec4		1	0.2	0	0	0	0
<input type="checkbox"/>	X 2	cass_caps_snghr4		1	0.2	0	0	0	0
<input type="checkbox"/>	X 3	MAPSKP:RPWS_K		1	0.2	0	0	0	0

Time selection:

- either select directly the time interval and click on «Plot»

	Year	Mon	Day	Hour	Min	Sec
Start:	2008	03	12	19	00	00
Interval:	000	00	15	00		

- or select the *shared time table*: «List\_of\_Enceladus\_flybys\_2004\_2010» in the «Saturn» sub-menu, select the right-hand radio button and click on «Plot For Intervals»

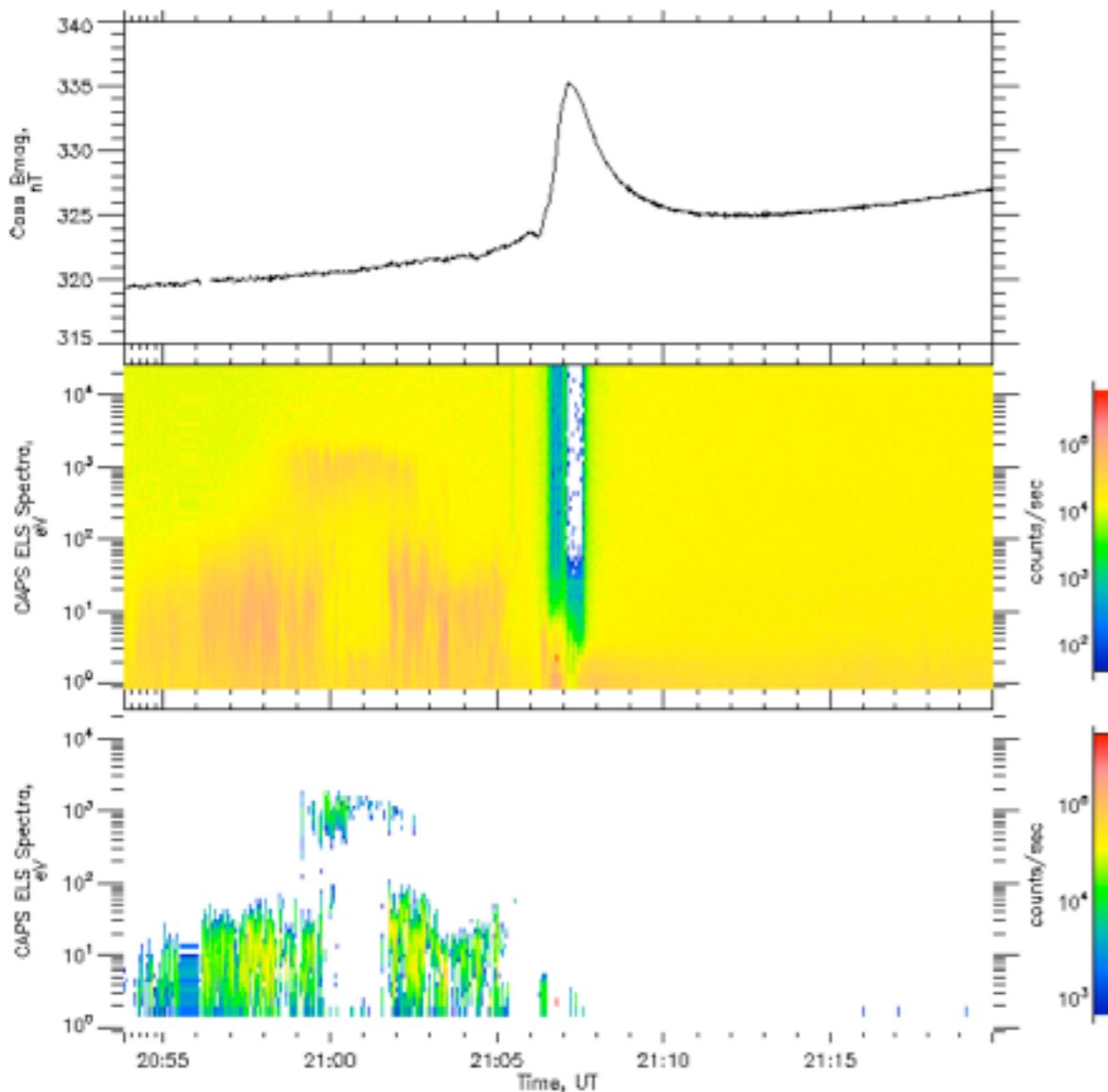
Select Input Time Table:

My Time Tables
  List\_of\_Enceladus\_flybys\_2004\_2010

then go to the 5th interval using the «Next» button<sup>(2)</sup> in the plot window.

(1) see «Add External Data» AMDA tutorial card.

(2) see «Use the Plot Result window #2» AMDA tutorial card.



Go in «Plot Data» tab.

• We present here the background removal option available on some particle spectra parameters. In order to know what options are available for a given parameter, click on the blue (i) close to the dataset name in the AMDA tree. In the pop-up window, you will find the available options. Here the options for the Cassini/CAPS/ELS@PDS dataset:

## Cassini Plasma Spectrometer data at AMDA

- Cassini CAPS data are taken from the PDS (Planetary Data System), [site](#).
- This contains uncalibrated data from the ELS sensor (els\_per\_sec), the IMS sensor (sng\_per\_sec) and the actuator.
- Parameter plotting arguments:
  - **backgrdChan** : subtraction of background noise defined by a channel index
  - **backgrdVal** : subtraction of background noise defined by a constant value
  - **minCount** : count data must be greater or equal than minCount to be plot
  - **maxCount** : count data must be lower or equal than maxCount to be plot
  - **channel** : plot a specific channel index

• We use a simplified version of «Enceladus flyby Example #1», where we only plot the first parameter:  
 - AMDA/Cassini\_Public/MAG/KRTP\_HighRes@PDS/b\_mag  
 - AMDA/Cassini\_Public/CAPS/els@PDS/spectra\_anode\_4  
 - AMDA/Cassini\_Public/CAPS/els@PDS/spectra\_anode\_4<sup>(1)</sup>  
 and select the 6th interval of the «List\_of\_Enceladus\_flybys\_2004\_2010» shared time-table<sup>(2)</sup>.

• The bottom plot is obtained using the following option, that you must type in the «Argument» column of the «Plot Request» panel, next to the parameter name:

- backgrdChan=62

This option selects Channel #62 and removes it from each channel.

(1) In order to have twice a parameter in the list, you must deselect the parameter in AMDA tree, and reselect it again.

(2) See «Use the Plot result window #2» AMDA tutorial card.

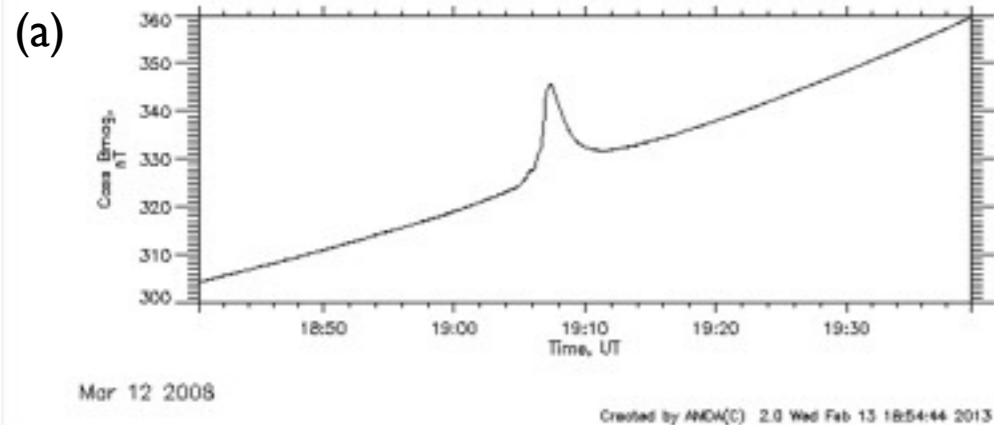
Aug 11 2008

Created by AMDA(C) 2.0 Wed Feb 13 21:44:57 2013

Plot Request									
D&D	N	Parameter Name	Arguments	Plot Size		X Data Range		Y Data Range	
				Width	Height	Xmin	Xmax	Ymin	Ymax
<input type="checkbox"/>	0	cass_bmag_krtphr		1	0.2	0	0	0	0
<input checked="" type="checkbox"/>	1	cass_caps_elssec4		1	0.2	0	0	0	0
<input checked="" type="checkbox"/>	2	cass_caps_elssec4	backgrdChan=62	1	0.2	0	0	0	0

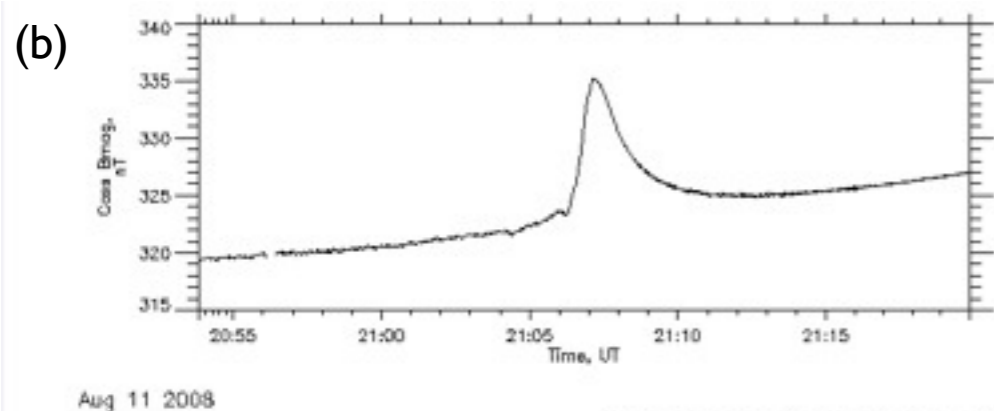
# Use the Plot result window #2

# AMDA tutorial card



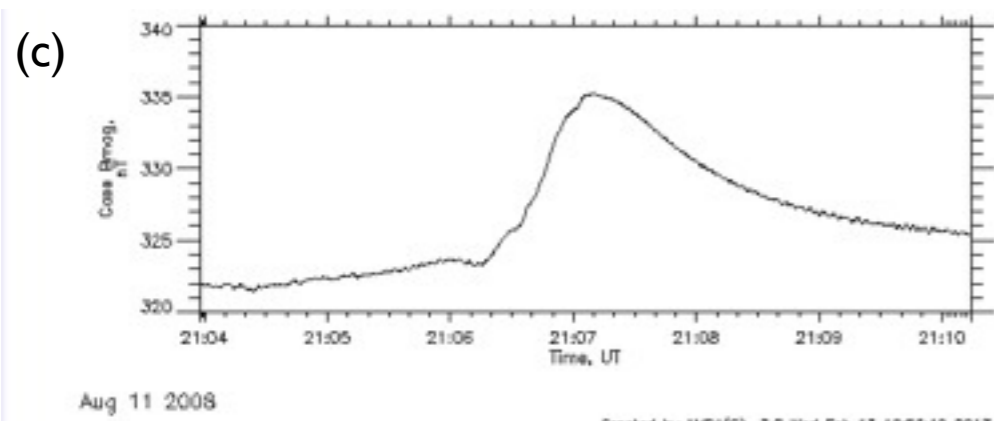
Interval 5 of 15

Save Start-Stop Zoom In Zoom Out Back Next Go To Interval 5 DONE



Interval 6 of 15

Save Start-Stop Zoom In Zoom Out Back Next Go To Interval 5 DONE



Interval 6 of 15

Save Start-Stop Zoom In Zoom Out Back Next Go To Interval 5 DONE

## Go in «Plot Data» tab.

- We present here the various option of the «Plot result window» in case of the plot request on a time-table.
- We use a simplified version of «Enceladus flyby Example #1», where we only plot the first parameter:
  - AMDA/Cassini\_Public/MAG/KRTP\_HighRes@PDS/b\_mag
  - and select the «List\_of\_Enceladus\_flybys\_2004\_2010» shared time-table.
- To get plot (a), type «5» in the bottom text box and click on «Go to Interval» button.
- To get plot (b), click on «Next» button, the plot is updated with the 6th interval data.
- Plot (c) is resulting from the «Zoom In» feature:
  - Click on the «Zoom In» button
  - When you move the mouse above the plot, a vertical line appears.
  - The first click defines the minimum value of the desired time interval
  - The second click defines the maximum value of the desired time interval
  - The plot is then reloaded with the new time interval.
  - You can go back to the original interval by clicking on «Zoom Out»
- Plot (d) illustrates the «Save Start-Stop» feature that allows you to save a visually selected time interval into a custom time-table:
  - Click on «Save Start-Stop»
  - Select Start and Stop times on the plot.
  - That time interval can be saved in a time-table (or appended to an existing one), just type the name or select it in the «My Time Tables» list.
  - Click on «Done» to close the window.

(d)

StartTime	StopTime
2008/8/11 21:6:14	2008/8/11 21:7:9

Add Interval to table test\_tt in / :

Select Table from the List: My Time Tables

Reset DONE

Interval 6 of 15

Save Start-Stop Zoom In Zoom Out Back Next Go To Interval 5 DONE