Integration of SAMP & VOTable in Planetary Science tools

B. Cecconi & VOParis team & CDPP Toulouse team *(+IMPEx team at LATMOS)*

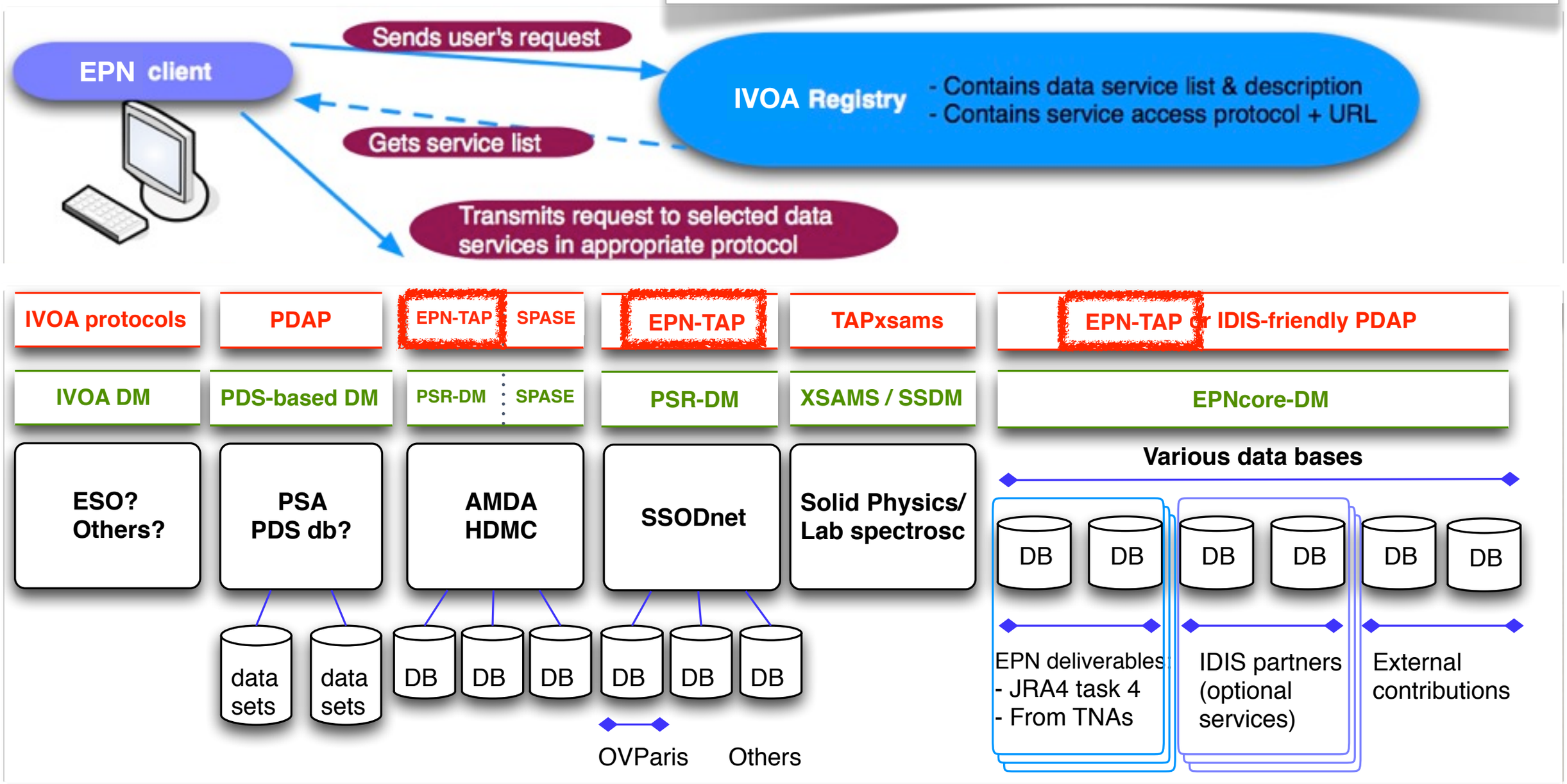
IVOA Interop Meeting, Heidelberg, May 2013

Europlanet (EPN)
Context and Achievements

- EPN is a FP7-EU project (finished in dec. 2012).
  One of its aim was to set the grounds of a planetary sciences VO.
- We assessed several standards (IVOA, IPDA, PDS4, SPASE...) and we decided to use IVOA standards with a few minor adaptations to fit to planetary sciences.
  - Data Model:
    *- Planetary Science Resource (PSR) DM (extension from **VOResource**)*
    - EPNcore data model (restriction of PSR-DM for EPN-TAP)
  - Protocol:
    *- EPN-TAP (**Obs-TAP** like with specific keywords and list of allowed values)*
  - Adoption of **VOTable** and **SAMP**
  - Use of **DaCHS** from GAVO for EPN-TAP server
  - Use of **IVOA Registry**

Architecture

With integration of SAMP to share data from the EPN-Client and between existing tools



Demonstrations

- **Integration of EPN-TAP in AMDA**
- AMDA / Aladin link using EPN-TAP and SAMP
- External data input via SAMP into TOPCAT and AMDA (data from IMPEx FP7-EU project web page)
- Displaying Low-Frequency (10 kHz to 1 MHz) Planetary Radio data in TOPCAT
- Europlanet Client at VOParis

Adaptation of XML Database to DaCHS TAP framework

- CDPP (*Centre de Données de la Physique des Plasmas, Toulouse*) has an extensive database of planetary plasma datasets (*550 datasets*) from various space missions (*from Pioneer, Voyager... to Cassini, Mars Express, Venus Express...*) and various types of measurements (*in situ particles, E-field, B-Field; remote radio up to ~40 MHz*), all in a local XML database.

- Path followed for IVOA integration:

  - *Build Dataset XML descriptors following PSR-DM (pre-filled from internal AMDA dataset descriptors)*
  - *Build Instrument and Target XML descriptors following PSR-DM*
  - *Script to transform PSR descriptors into an SQL database*
  - *Sharing following EPNcore specification through EPN-TAP using DaCHS*

manunja.cesr.fr/CDPP/EPNResources.php

manunja.cesr.fr/CDPP/EPNResources.php

forums Mission CDPP Cassini STEREO Webmail Banques Revues English YT->MP4 DOI Reservations [OBSPM] sellercentral-Amazon.fr

manunja.cesr.fr/CDPP/EPNResources.php

EPN Resource

Europlanet

EPN Resource

Dataset Id EPNresource_cass_rpws_skr **Creation** 2013-01-31T18:42:26 **Last modification** 2013-02-06T11:25:48

Title Cassini RPWS skr@LES **Short Name** cass_rpws_skr

Content

Keyword* Saturn + -

Keyword* magnetosphere + -

Keyword* aurora + -

Keyword* radio emission + -

Find keywords

Description* Cassini Saturn kilometric Radiation (SKR) data produced from LESIA/Observatoire de Paris.

Data have been produced by Laurent Lamy, Baptiste Cecconi

Reference URL* http://cdpp-amda.cesr.fr/DDHTML/HELP/CassiniSkr.html

Publisher Name* CDPP – Centre de Données de la Physique des Plasma

Creator Name LESIA, Observatoire de Paris

Creator Logo

Contributor* L. Lamy, LESIA, Observatoire de Paris + -

Contributor* B. Cecconi, LESIA, Observatoire de Paris + -

Contributor* P. Zarka, LESIA, Observatoire de Paris + -

Contact

Contact Id* ivo://cdpp/irap/amda

Contact Name* CDPP/AMDA Team

Contact Address IRAP, 9 avenue du Colonel Roche, 31028 TOULOUSE, CEDEX 4, FRANCE

Contact Email amda@irap.omp.eu

Contact Telephone

+ -

Afficher un menu

manunja.cesr.fr/CDPP/helpKeywords.html

KEYWORDS A topic, object type, or other descriptive keywords about the resource.
Terms for Subject should be drawn from the IAU Astronomy Thesaurus
http://www.ivoa.net/rdf/Vocabularies/vocabularies-20091007/IVOAT/dict/A.html

Done

Resource descriptor form (top of page)

manunja.cesr.fr/CDPP/EPNResources.php

manunja.cesr.fr/CDPP/EPNResources.php

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manunja.cesr.fr/CDPP/EPNResources.php

Metadata Description

Identifier: ivo://cdpp/irap/amda | Format: votable | Rights: secure | Resource type: dataset

Associated Instrument: Cassini RPWS(facility: Cassini) Add instrument | Calibration: resampled

Target Class: planet

Target: Saturn + - Add target

Access URL*: http://cdpp-amda.cesr.fr/DDHTML/index.html

Time

Start Time: 2003-01-01T00:00:0 | Stop Time: 2011-12-31T23:59:5 | *Date format: YYYY-MM-DDTHH:MM:SS | Time Scale: UTC

Integration Time: variable | Integration Min: | Integration Max: | Units: secondes

Sampling Step: constant | Sampling Step Min: 180 | Sampling Step Max: 180 | Units: secondes

Measurement Types

Measurement Types: em.radio + -

Additional ucd:

Physical parameters

Parameter Name	Parameter Description	Parameter Unit	Parameter Ucd	Dataproduct Type	Parameter Type
skr_total_power_	SKR total emitted power	W/sr	em.radio;p	time_series	float
skr_flux_RH	SKR flux densities in Right-Hand C	W/m2/Hz		dynamic_spectrum	float
skr_flux_LH	SKR flux densities in Left-Hand Ci	W/m2/Hz		dynamic_spectrum	float
skr_polarisation	SKR Circular polarization degree			dynamic_spectrum	float

More data

SAVE AS NEW OVERWRITE

Return to resources list

Afficher un menu

Resource descriptor form (bottom of page)

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manunja.cesr.fr/CDPP/EPNResources.php

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manunja.cesr.fr/CDPP/EPNResources.php | manunja.cesr.fr/CDPP/EPNInstruments.php | manunja.cesr.fr/CDPP/targets_index.php

Parameter Name	Parameter Description	Parameter Unit	Parameter Ucd	Dataproduct Type	Parameter Type		
skr_total_power_	SKR total emitted power	W/sr	em.radio;p	time_series	float	+	-
skr_flux_RH	SKR flux densities in Right-Hand C	W/m2/Hz		dynamic_spectrum	float	+	-
skr_flux_LH	SKR flux densities in Left-Hand Ci	W/m2/Hz		dynamic_spectrum	float	+	-
skr_polarisation	SKR Circular polarization degree			dynamic_spectrum	float	+	-

Space coordinates

Spatial Frame Type name

C1 min		C1 max	
C2 min		C2 max	
C3 min		C3 max	
C1 resol min		C1 resol max	
C2 resol min		C2 resol max	
C3 resol min		C3 resol max	

Spectral (Waves or photons)

Lo Limit	3.95	Hi Limit	1500	ucd	em.freq	units	kHz
Integration Band Width	variable	Band Width Min	0.79	Band Width Max	57.9	Units	kHz
Sampling Step	variable	Sampling Step Min	0.81	Sampling Step Max	51.1	Units	kHz

Spectral (Particles)

Lo Limit		Hi Limit		ucd		units	
Integration Band Width	variable	Band Width Min		Band Width Max		Units	
Sampling Step	variable	Sampling Step Min		Sampling Step Max		Units	secondes

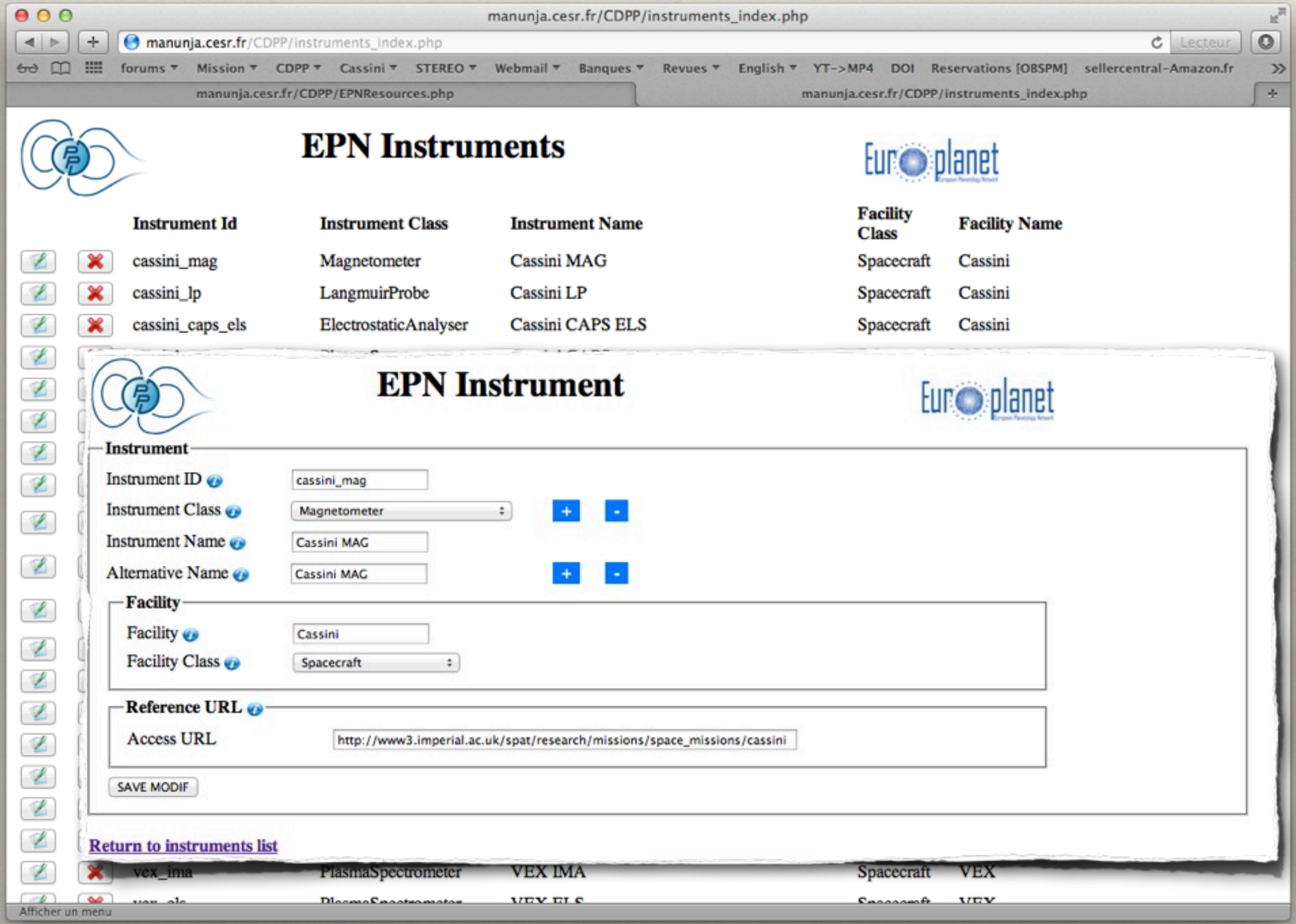
Less data

SAVE AS NEW OVERWRITE

Return to resources list

Afficher un menu

Resource descriptor form (extra fields)



Instrument descriptors list

manunja.cesr.fr/CDPP/targets_index.php

manunja.cesr.fr/CDPP/targets_index.php

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manunja.cesr.fr/CDPP/EPNResources.php | manunja.cesr.fr/CDPP/instruments_index.php | manunja.cesr.fr/CDPP/targets_index.php

EPN Targets

	Id	Class	Name	Description
	jupiter	planet	Jupiter	5th planet of the solar system
	saturn	planet	Saturn	6th planet of the solar system
	cassini	spacecraft	Cassini	Cassini mission
	mimas	satellite	Mimas	Satellite of Saturn
	rhea	satellite	Rhea	Satellite of Saturn
	tethys	satellite	Tethys	Satellite of Saturn
	moo			
	gasp			
	ida			
	phob			
	dein			
	galil			
	amal			
	hyp			
	pho			
	iape			
	giotto	satellite	Giotto	Giotto mission
	halley	comet	1P/Halley	Halley comet
	neptune	planet	Neptune	8th planet of the Solar System
	uranus	planet	Uranus	7th planet of the Solar System
	pluto	dwarf_planet	134340 Pluto	dwarf planet of the Solar System

EPN Target

Target

Target ID: jupiter

Target Class: planet

Target Name: Jupiter

Alternative Name: naif:599 + -

Description: 5th planet of the solar system

SAVE MODIF

Return to targets list

Afficher un menu

Target descriptors list

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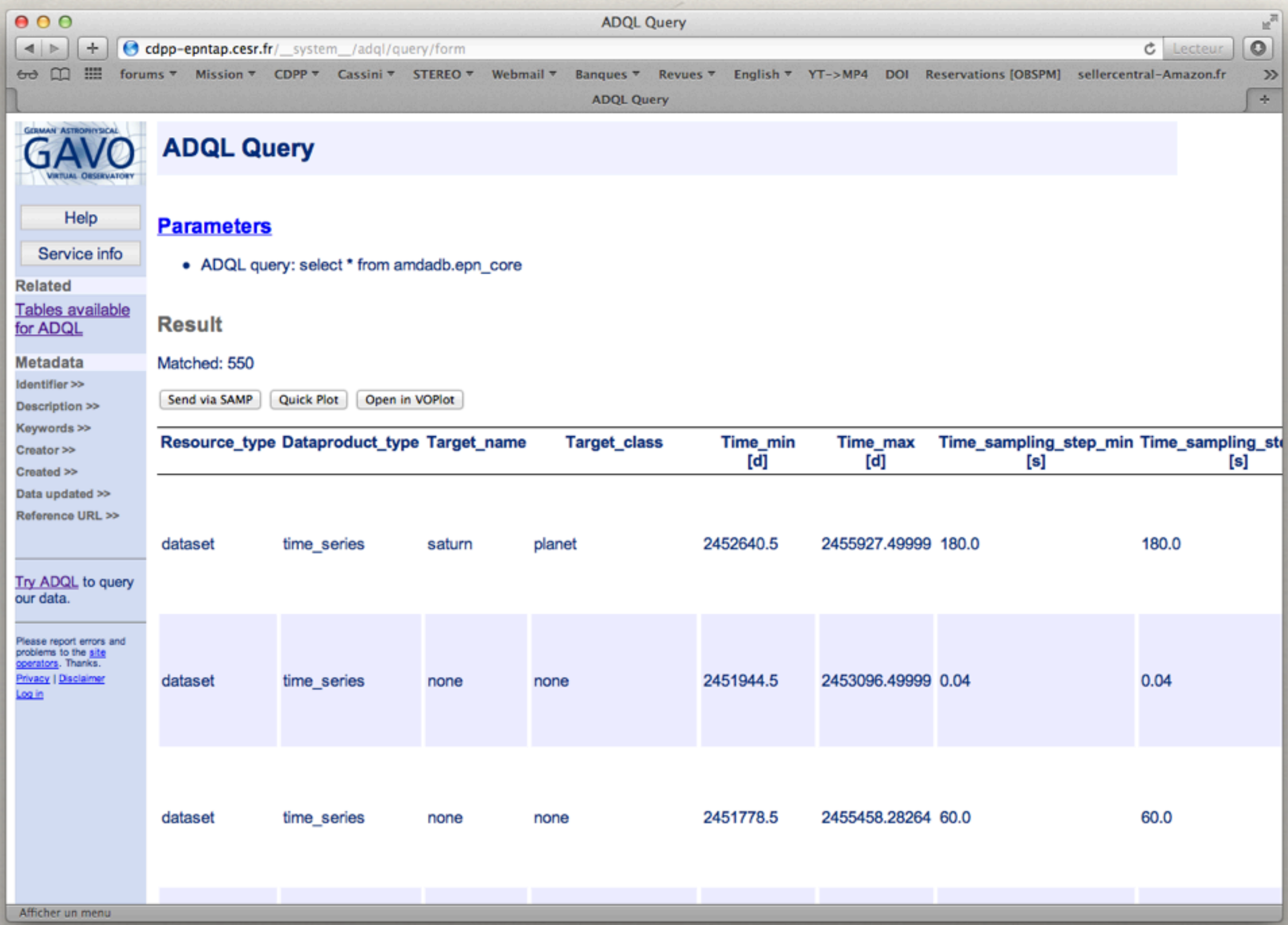
manunja.cesr.fr/CDPP/resources_index.php

EPN Resources

	Title	Facility	Associated Instrument	Target(s)	Measurement Type(s)	Created	
	Cassini RPWS skr@LESIA	Cassini	Cassini RPWS	Saturn	em.radio	2013-01-31T18:42:26	
	Galileo attitude flybys_Ganymede@PDS	Galileo	Galileo Attitude	Galileo	none	2013-01-31T18:42:27	
	CLUSTER3 FGM fgm pp up	CLUSTER 3	CLUSTER3 FGM	Earth Solar Wind	phys.magField	2013-01-31T18:42:29	
	Galileo attitude flybys Io@PDS	Galileo	Galileo Attitude	Galileo	none	2013-01-31T18:42:27	
	[GENERATED] CLUSTER1 STAFF staff_pp	CLUSTER 1	CLUSTER 1 Spatial Temporal Analysis of Field Fluctuations		none	2013-01-31T18:42:29	
	[GENERATED] CLUSTER2 STAFF staff_pp	CLUSTER 2	CLUSTER 2 Spatial Temporal Analysis of Field Fluctuations		none	2013-01-31T18:42:29	
	CLUSTER2 FGM fgm pp up	CLUSTER 2	CLUSTER2 FGM	Earth Solar Wind	phys.magField	2013-01-31T18:42:29	
	[GENERATED] CLUSTER1 RAPID rap_pr_flux	CLUSTER1	CLUSTER1 Research with Adaptive Particle Imaging Detector		none	2013-01-31T18:42:29	
	Cassini MAG KSM 1sec@PDS	Cassini	Cassini MAG	Saturn Titan Dione Rhea Tethys Mimas Enceladus Hyperion Iapetus Saturn rings Solar Wind Phoebe	phys.magField	2013-01-31T18:42:26	
	[GENERATED] CLUSTER1 WHISPER whisper_pp	CLUSTER 1	CLUSTER 1 Waves High Frequency and Sounder		none	2013-01-31T18:42:29	
	Cassini MAG KSM 1min@PDS	Cassini	Cassini MAG	Saturn Titan Tethys Rhea Dione Enceladus Mimas Hyperion Iapetus Saturn rings Solar Wind Phoebe	phys.magField	2013-01-31T18:42:26	
	Cassini MAG KSO 1min@PDS	Cassini	Cassini MAG	Saturn Titan Mimas Dione Rhea Tethys Enceladus Iapetus Hyperion Saturn rings Solar Wind Phoebe	phys.magField	2013-01-31T18:42:26	

Afficher un menu

Resource descriptors list



Dataset list in DaCHS following EPNcore specification

Demonstrations

- Integration of EPN-TAP in AMDA
- **AMDA/Aladin link using EPN-TAP and SAMP**
- External data input via SAMP into TOPCAT and AMDA
  (data from IMPEx FP7-EU project web page)
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- Europlanet Client at VOParis

Welcome on Amda

cdpp1.cesr.fr/AMDA-NG/

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Welcome on Amda

Amda

Versatile web tool for Space Physics

MULTI DATASET VISUALISATION AND DOWNLOAD

VISUAL AND AUTOMATED EVENT SEARCH AND DATA MINING

CATALOGUE GENERATION AND EXPLOITATION

REMOTE ACCESS TO DATA, MODEL AND IMAGE CENTRES VIA VO TOOLS AND STANDARDS

CDPP

First visit, demo tour

Rules of the road

cecconi

.....

Login

Register

Contact us

Announcements

01/03/2013

Transfer CDF or VOTable files from/to AMDA via SAMP

01/03/2013

Apply filters to the data tree

soon

Access hybrid simulation runs from LATMOS

irap cnrs INSU cnes Université Paul Sabatier OMP Europlanet HELIO impex

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AMDA Welcome Page

AMDA-NG4/Migration Step - Virtual Desktop Application

cdpp1.cesr.fr/AMDA-NG/desktop.php

Lecteur

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AMDA-NG4/Migration Step - Virtual Desktop Application

Workspace Explorer

resources | operations | jobs

Filter : None

- Parameters
  - Local Data
  - Remote Data
  - My Data
- Derived Parameters
- Aliases
- Time Tables
  - My Time Tables
- My Files

Log

Cle

About AMDA-NG...

AMDA-NG: Bienvenue
Release of 2013-03-04

Preface
Please keep in mind that this version of AMDA is a combination of a new Web interface with an old AMDA. We plan to update AMDA later this year or at the beginning of 2014.

Release Notes

- Please let us know which parameters (local and remote!) have problems while manipulating with (plot, mining, etc)
- Please let us know which information (help) has to be added, or changed to make the description more clear.

Modules/Functionalities to test

- Upload Data
- Interoperability: Remote Parameter
- Interoperability: SAMP(Java should be installed on local machine)
- Parameters Tree Filtering
- Plot
- Download
- Alias
- Data mining
- Long Running Jobs (batch)
- Feedback
- Create/Modify Parameter
- Time Table Operations
- Time Table Manager

Start | Workspace Explorer | About AMDA-NG... | 10:53 AM

Afficher un menu

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AMDA-NG4/Migration Step - Virtual Desktop Application

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AMDA-NG4/Migration Step - Virtual Desktop Application

Workspace Explorer

resources | operations | jobs

Filter : None

- Parameters
  - Local Data
    - Cassini_Public
      - ephemeris
      - RPWS
      - MAG
        - RTN_1min@PDS
        - RTN_1sec@PDS
          - b_rtn
            - b_r
            - b_t
            - b_n
            - b_mag

Log

Clear

Plot

Plot 1 | Plot 2 | Plot 3 | Plot 4 | Plot 5

Add Panel Remove Panel AutoLayout AutoScale

Name	Panel Properties								Parameter Arguments	Y2
	Plot Type	Height	Width	Xmin	Xmax	Ymin	Ymax	Additional		
Panel 1	TIME	0.4	1	0	0	0	0	select...		
cass_b_rtn1s									select...	

1 selected node

Time Selection

Time Table Interval

Start Time: 2013/05/13 13:24

Stop Time: 2013/05/14 13:24

	Days:	Hrs:	Mins:	Secs:
Duration:	0001	00	00	00

Plot Title:

Char Size: 1.3

Orientation: LANDSCAPE

Description:

Plot File Name:

Line Thickness: 1

File Format: PNG

Points per Plot: 3000

Request Name:

Plot | Get Data | Reset | Save Request

Information

1. To plot a parameter, **drag** it from the Parameters tree and **drop** onto the panel
2. For a number of parameters some arguments are not operational for the moment (though shown, sorry)
3. XY ('Scatter') PlotType takes into account only 'Symbol' and 'Color' parameter arguments
4. If AutoScale mode is selected AMDA ignores all parameter arguments for 'AutoScaled' panels

Start | Workspace Explorer | Plot | 1:24 PM

QuickTime Player Fichier Édition Présentation Partage Fenêtre Aide

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AMDA-NG4/Migration Step - Virtual Desktop Application

Workspace Explorer

resources operations jobs

Filter : None

Parameters

Local Data

Log

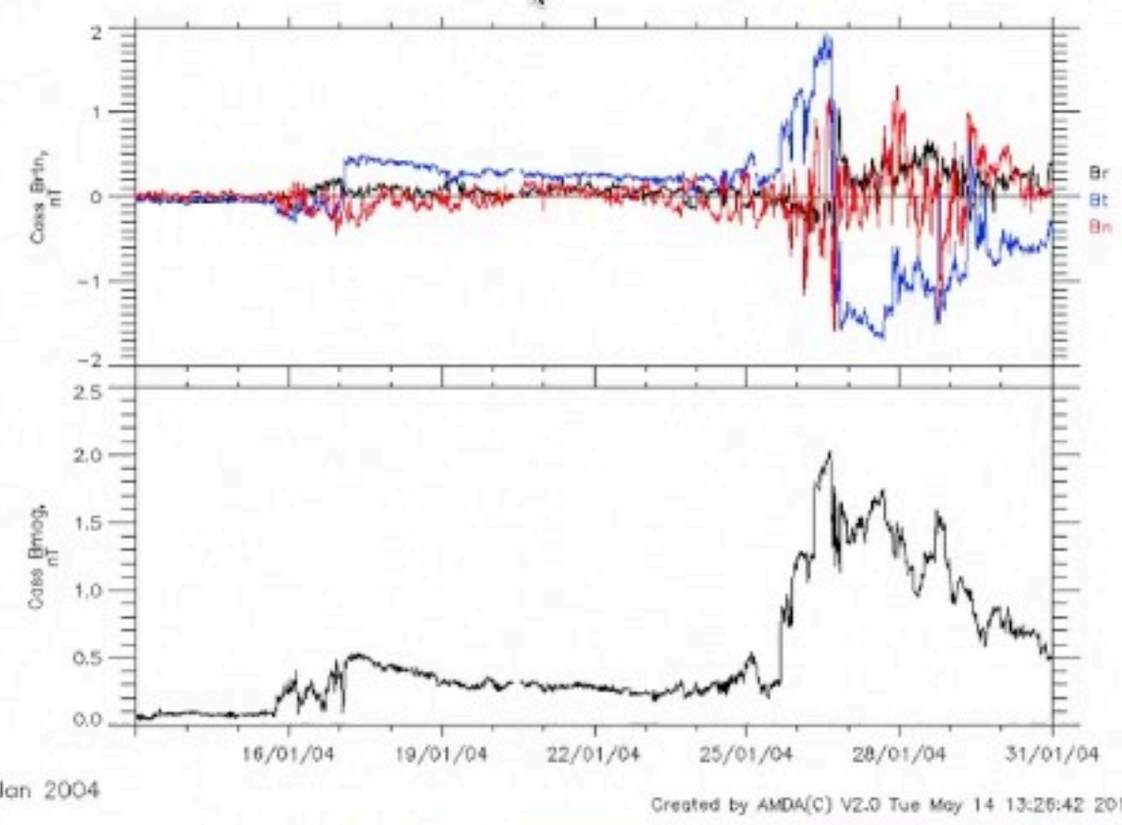
Multi Plot Manager

Plot1 Plot2 Plot3 Plot4 Plot5

Previous 1/2 Previous 1/2 Next Next

Plot 1

Previous 1/2 Previous 1/2 Next Next Interoperability



X: Y: Resize: Zoom in Time Interval Extend/Shift

AutoLayout AutoScale

Panel Properties

Name

Ymax Additional Parameter Arguments Y2

0 select... select...

0 select... select...

Plot File Name:

Line Thickness: 1

File Format: PNG

Points per Plot: 3000

Request Name:

Save Request

shown, sorry)

els

1:27 PM

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AMDA-NG4/Migration Step - Virtual Desktop Application

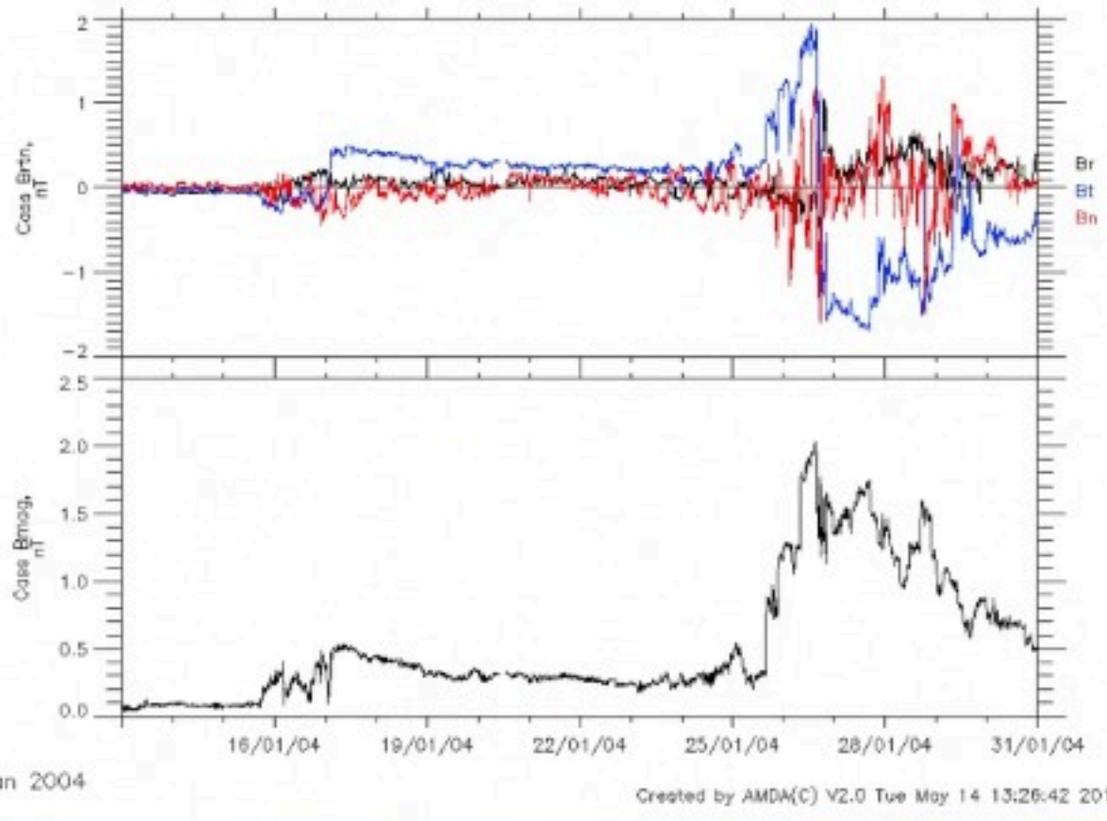
Workspace Explorer

Multi Plot Manager

Plot 1

Previous 1/2 Previous 1/2 Next Next

Interoperability



X: 2004-01-28T07:52:30 Y: 89 Resize:

Zoom in Time Interval Extend/Shift

AutoLayout AutoScale

Ymin	Ymax	Additional	Parameter Arguments	Y2
0	0	select...	select...	
0	0	select...	select...	

Plot File Name:

Line Thickness: 1

File Format: PNG

Points per Plot: 3000

Request Name:

Save Request

2. For a number of parameters some arguments are not operational for the moment (though shown, sorry)
3. XY ('Scatter') PlotType takes into account only 'Symbol' and 'Color' parameter arguments
4. If AutoScale mode is selected AMDA ignores all parameter arguments for 'AutoScaled' panels

SAMP connection

Start Workspace Explorer Plot Multi Plot Manager Plot 1 1:27 PM

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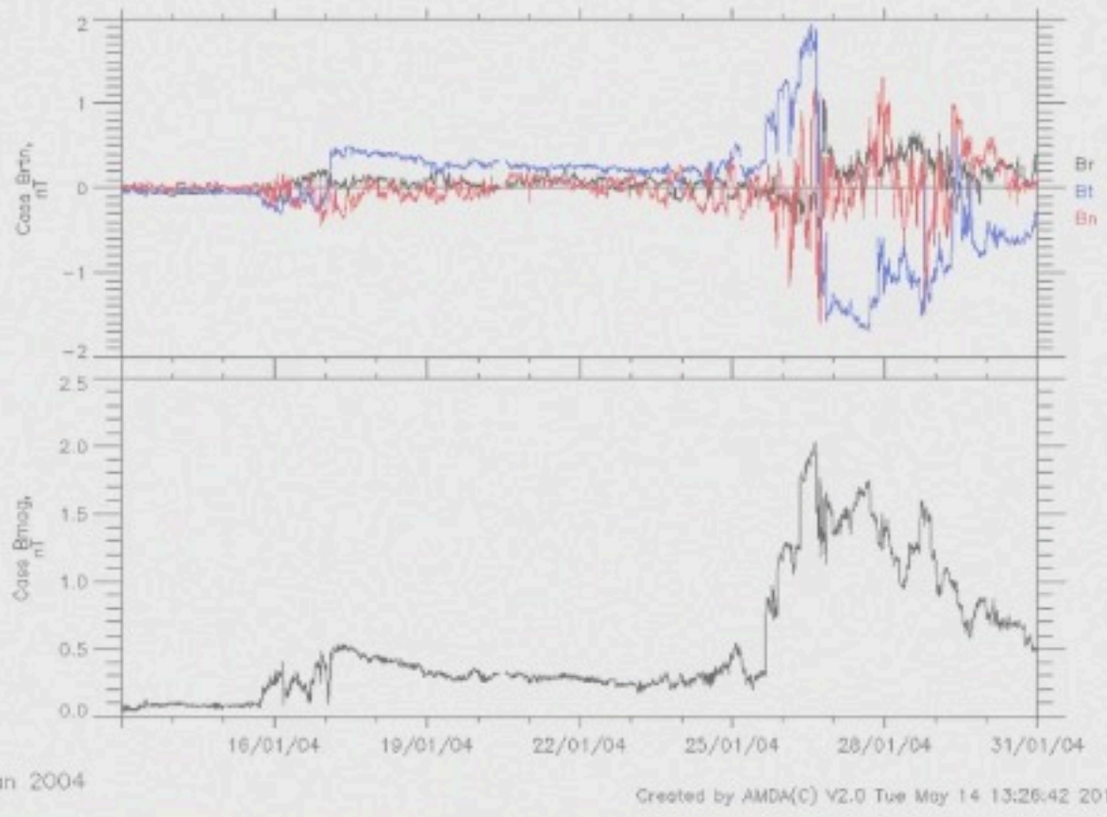
AMDA-NG4/Migration Step - Virtual Desktop Application

Workspace Explorer | Multi Plot Manager

Plot 1

Previous 1/2 Previous 1/2 Next Next Interoperability



Resize: Zoom in Time Interval Extend/Shift

Astronomical Images

MAST Archive | APIS Archive

APIS database by Laurent Lamy - Lesia-Observatoire de Paris

Request definition

Target: Saturn

Start Time: 2004/01/13 00:00

Stop Time: 2004/01/31 00:00

Duration: Days: 0018 Hrs: 00 Mins: 00 Secs: 00

Delta T: 0 minute(s)

Extend ... left right both

Shift ... left right

Refresh Load previ

Interoperability

Display Mode: Send to

Request Name:

Save Request

Image Selection

Collapse all Expand all Select all Unselect all

Images

2004-01-13 **(3 images)**

2004-01-15 **(3 images)**

2004-01-15 00:00:00

2004-01

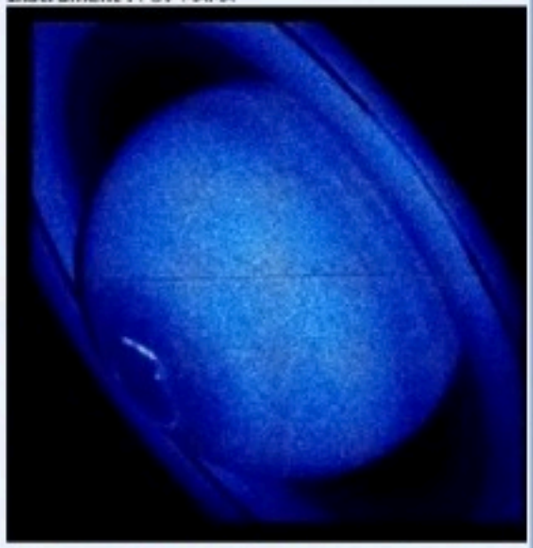
2004-01

2004-01

2004-01

2004-01

Name : 2004-01-15 00:00:00
Start time : 2004-01-15 00:00:00
Stop time : 2004-01-15 00:00:00
Target : saturn
Instrument : FUV-MAMA



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Start | Workspace Explorer | Plot | Multi Plot Manager | Plot 1 | Astronomical Images | 1:27 PM

Ouvrir « http://voparis-srv.obspm.fr/vo/planeto/apis/dataset/Bastet/Saturn_-_2004_08-30_Jan/o8wi05h2q_x2d.jpg » dans un nouvel onglet

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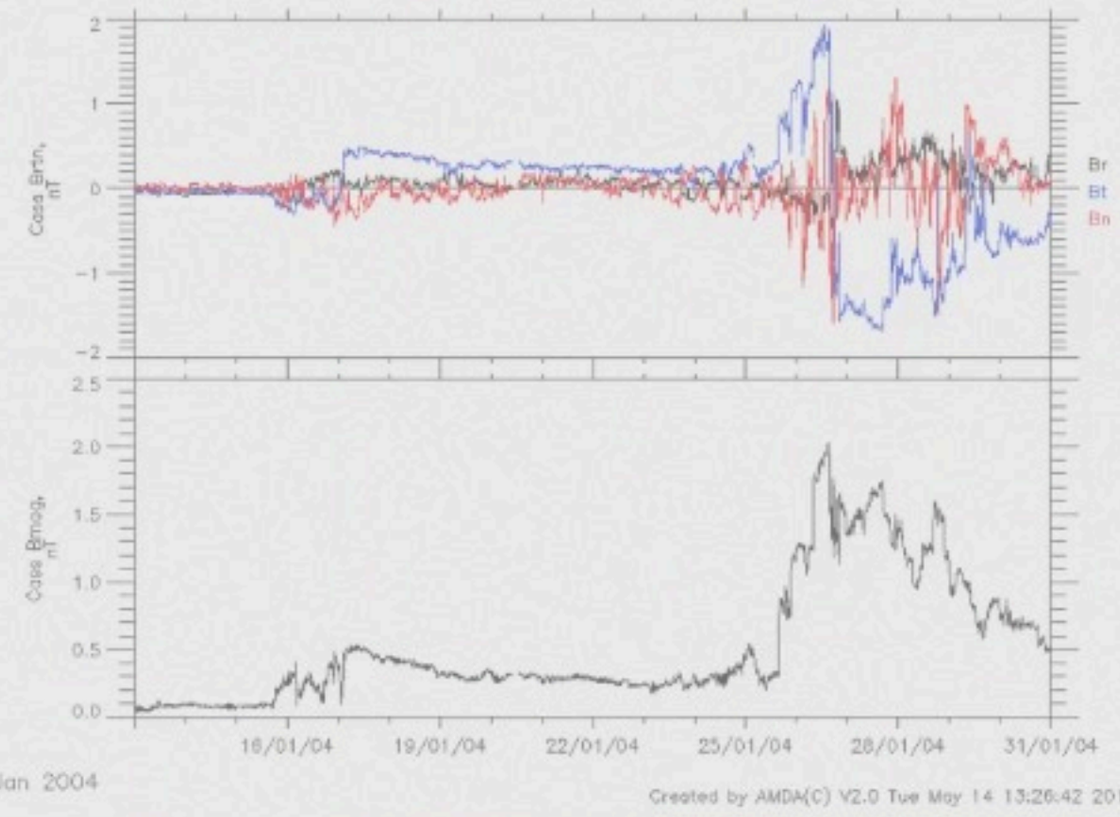
AMDA-NG4/Migration Step - Virtual Desktop Application

Workspace Explorer | Multi Plot Manager

Plot 1

Previous 1/2 Previous 1/2 Next Next Interoperability



Resize: Zoom in Time Interval Extend/Shift

Astronomical Images

MAST Archive APIS Archive

APIS database by Laurent Lamy - Lesia-Observatoire de Paris

Request definition

Target: Saturn

Start Time: 2004/01/13 00:00

Stop Time: 2004/01/31 00:00

	Days:	Hrs:	Mins:	Secs:
Duration:	0018	00	00	00

Delta T: 0 minute(s)

Extend ... left right both

Shift ... left right

Refresh Load previ

Interoperability

Display Mode: Send to

Request Name:

Save Request

Image Selection

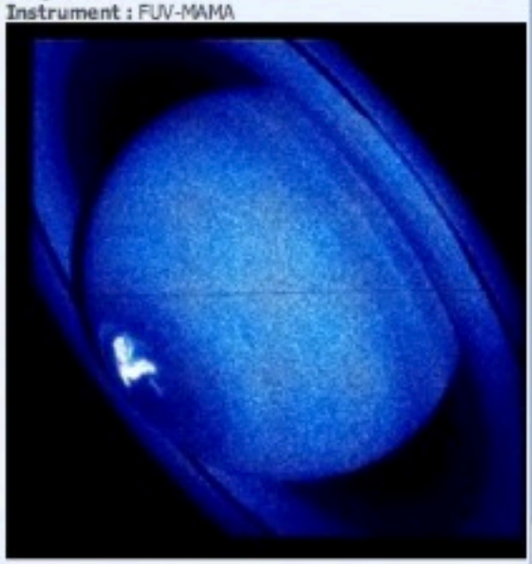
Collapse all Expand all Select all Unselect all

Images

2004-01-17 (3 images)
- 2004-01-17 00:00:00
- 2004-01-17 00:00:00
- 2004-01-17 00:00:00

2004-01-19 (3 images)
2004-01-21 (3 images)
2004-01-22 (3 images)
2004-01
2004-01

Name : 2004-01-26 00:00:00
Start time : 2004-01-26 00:00:00
Stop time : 2004-01-26 00:00:00
Target : saturn
Instrument : FUV-MAMA



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Start | Workspace Explorer | Plot | Multi Plot Manager | Plot 1 | Astronomical Images

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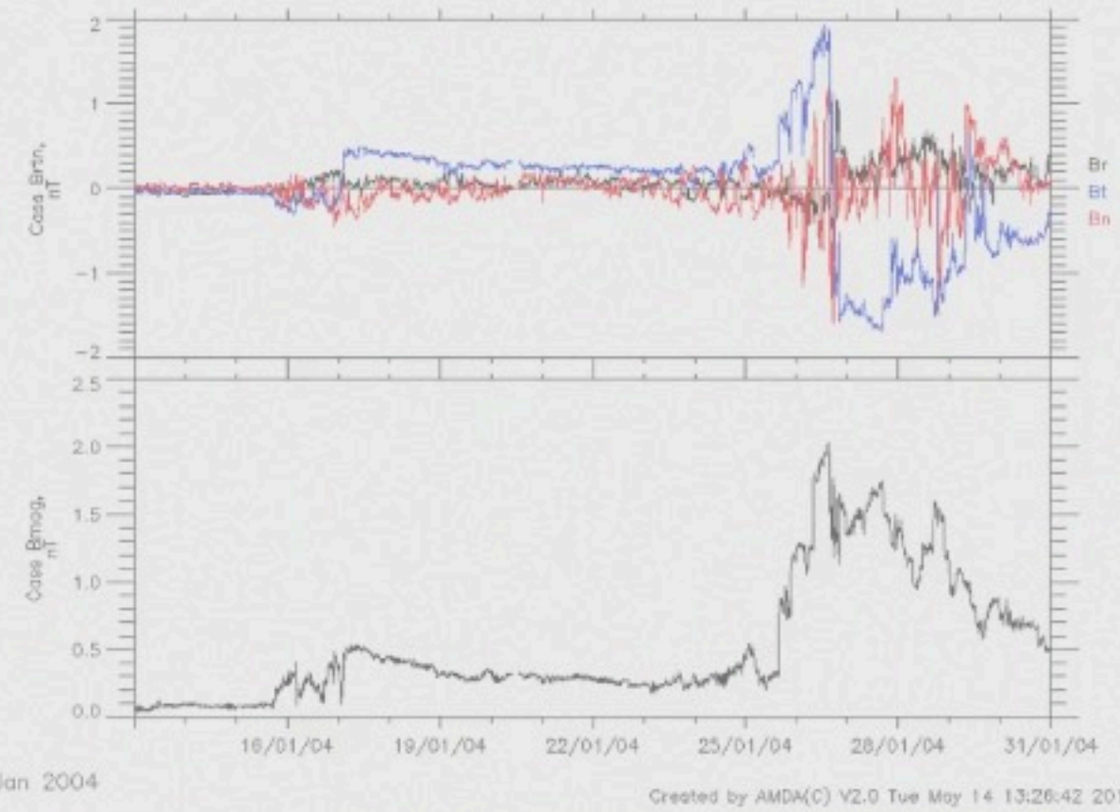
AMDA-NG4/Migration Step - Virtual Desktop Application

Workspace Explorer | Multi Plot Manager

Plot 1

Previous 1/2 Previous 1/2 Next Next Interoperability



Resize: Zoom in Time Interval Extend/Shift

Astronomical Images

MAST Archive APIS Archive

APIS database by Laurent Lamy - Lesia-Observatoire de Paris

Request definition

Target: Saturn

Start Time: 2004/01/13 00:00

Stop Time: 2004/01/31 00:00

Days: Hrs: Mins: Secs:

Duration: 0018 00 00 00

Delta T: 0 minute(s)

Extend ... left right both

Shift ... left right

Refresh

Image Selection

Collapse all Expand all Select all Unselect all

Images

2004-01-17 (3 images)
2004-01-17 00:00:00
2004-01-17 00:00:00
2004-01-17 00:00:00
2004-01-19 (3 images)
2004-01-21 (3 images)
2004-01-22 (3 images)
2004-01-24 (3 images)
2004-01-26 (3 images)
2004-01-26 00:00:00
2004-01-26 00:00:00

Load preview Download selection

Interoperability

Display Mode: Send to Aladin Web Send (via SAMP) to ...

Aladin (c2)
topcat (c1)
all clients (hub)

Request Name:

Save Request

2. For a number of parameters some arguments are not operational for the moment (though shown, sorry)
3. XY ('Scatter') PlotType takes into account only 'Symbol' and 'Color' parameter arguments
4. If AutoScale mode is selected AMDA ignores all parameter arguments for 'AutoScaled' panels

Start | Workspace Explorer | Plot | Multi Plot Manager | Plot 1 | Astronomical Images | 1:28 PM

Aladin Fichier Edition Image Catalogue Graphique Outil Vue Interop Aide

AMDA-NG4/Migration Step – Virtual Desktop Application

cdpp1.cesr.fr/AMDA-NG/desktop.php

forums Mission WindGURU APOD KartOO Tromsø

Aladin v7.5

Position

Référentiel ICRS

2004-01-15 00:00:00[1]

5"

25.39" x 22.16"

E N

grille cligne nord multivues unit.

Ajuste la portion visible (cliquer/déplacer + molette)

Chercher

(c) 2012 UDS/CNRS - by CDS - Distributed under GNU GPL v3

0 sel / 0 src 25Mo

select depl. zoom dist phot dessin marq filtre corr. x-y rvb taille opac. assoc zoom coupe cont pixel prop suppr

2004-0... 79%

2004-01-15 00:0

2004-01-17 00:0

Workspace Explorer

Plot 1

Previous 1/2 Previous 1/2 Next Next

Cass Bmag, nT

Jan 2004

Expand all Select all Unselect all

-17 (3 images)

004-01-17 00:00:00

004-01-17 00:00:00

004-01-17 00:00:00

-19 (3 images)

-21 (3 images)

-22 (3 images)

-24 (3 images)

-26 (3 images)

004-01-26 00:00:00

004-01-26 00:00:00

Download selection

Aladin Web

Send (via SAMP) to ...

Start Workspace Explorer Plot Multi Plot Manager Plot 1 Astronomical Images 1:28 PM

Demonstrations

- Integration of EPN-TAP in AMDA
- AMDA / Aladin link using EPN-TAP and SAMP
- **External data input via SAMP into TOPCAT and AMDA (data from IMPEx FP7-EU project web page)**
- Displaying Low-Frequency (10 kHz to 1 MHz) Planetary Radio data in TOPCAT
- Europlanet Client at VOParis

LatHyS

impex.latmos.ipsl.fr/LatHyS.htm

forums | Mission | CDPP | Cassini | STEREO | Webmail | Banques | Revues | English | YT->MP4 | DOI | Reservations [OBSPM] | sellercentral-Amazon.fr

AMDA-NG4/Migration Step – Virtual Desktop Application | LatHyS

LatHyS

LATMOS HYBRID SIMULATIONS

About LatHyS | Use policy

LATMOS

- Simulations
  - Mars_14_01_13
    - 3DCubes
    - TimeSeries
    - 2DCuts
      - IonComposition
      - ElectricField
      - Current
      - MagneticField
      - ThermalPlasma
        - The/2D/XY
        - The/2D/XZ
        - The/2D/YZ
      - Spectra
    - Mars_13_02_13
  - Spacecraft
- *Add a new Database*

Filter:

Region:

Product:

IMF, min: nT max: nT

Cone ang., min: o max: o

Flow Velocity, min: km.s^{-1} max: km.s^{-1}

Flow Density, min: km.s^{-1} max: km.s^{-1}

SAMP: Connected Unregister

Run Information:
Hybrid_LATMOS_Mars_14_01_13

Simulated Region: Mars
Reference Frame: MSO, Cartesian

Domain: x∈[-7180.1,9389.4] km
y∈[-15879.1,15934.3] km
z∈[-15879.1,15934.3] km

Solar wind properties:
IMF value: 3.001 nT
IMF cone angle: 57.10°
Density: 2.84E+00 cm-3
Velocity: 485.00 km/s
Solar UV Flux @ 10.7: 236.00

- **Solar wind populations:**
- **Ionosphere populations:**
- **Exosphere populations:**

Data Information:
Hybrid_LATMOS_Mars_14_01_13/The/2D/XY

Product Type: 2DCuts
MeasurementType: ThermalPlasma

Contents:

- ElectronDensity
- PlasmaBulkVelocityNorm
- PlasmaBulkVelocityVector
- PlasmaBulkTemperature

Download

Send

Click here to send VOTable to SAMP

Afficher un menu

Simulations of the interaction of Mars with the Solar Wind

TOPCAT

Table List

2: results

65 / 124 M

Current Table Properties

Label: results

Location: LatHyS SAMP service:results

Name: results

Rows: 77 972

Columns: 9

Sort Order:

Row Subset: All

SAMP

Messages:

Clients:

TOPCAT(2): Table Columns

Table Columns for 2: results

	Visible	Name	$ID	Class	Units	Description	UCD	Utype	Dataty
0	☐	Index	$0	Long		Table row index			
1	☑	X	$1	Float			pos.cartesian.x	stc:AstroCoords.Position3D.Value3.C1	float
2	☑	Y	$2	Float			pos.cartesian.y	stc:AstroCoords.Position3D.Value3.C2	float
3	☑	Z	$3	Float			pos.cartesian.z	stc:AstroCoords.Position3D.Value3.C3	float
4	☑	Density	$4	Float	cm-3		phys.density		float
5	☑	Ux	$5	Float	km.s-1		phys.veloc		float
6	☑	Uy	$6	Float	km.s-1		phys.veloc		float
7	☑	Uz	$7	Float	km.s-1		phys.veloc		float
8	☑	Utot	$8	Float	km.s-1		phys.veloc		float
9	☑	Temperature	$9	Float	eV		phys.temperature		float

Scatter Plot

Table List

2: results

65 / 124 M

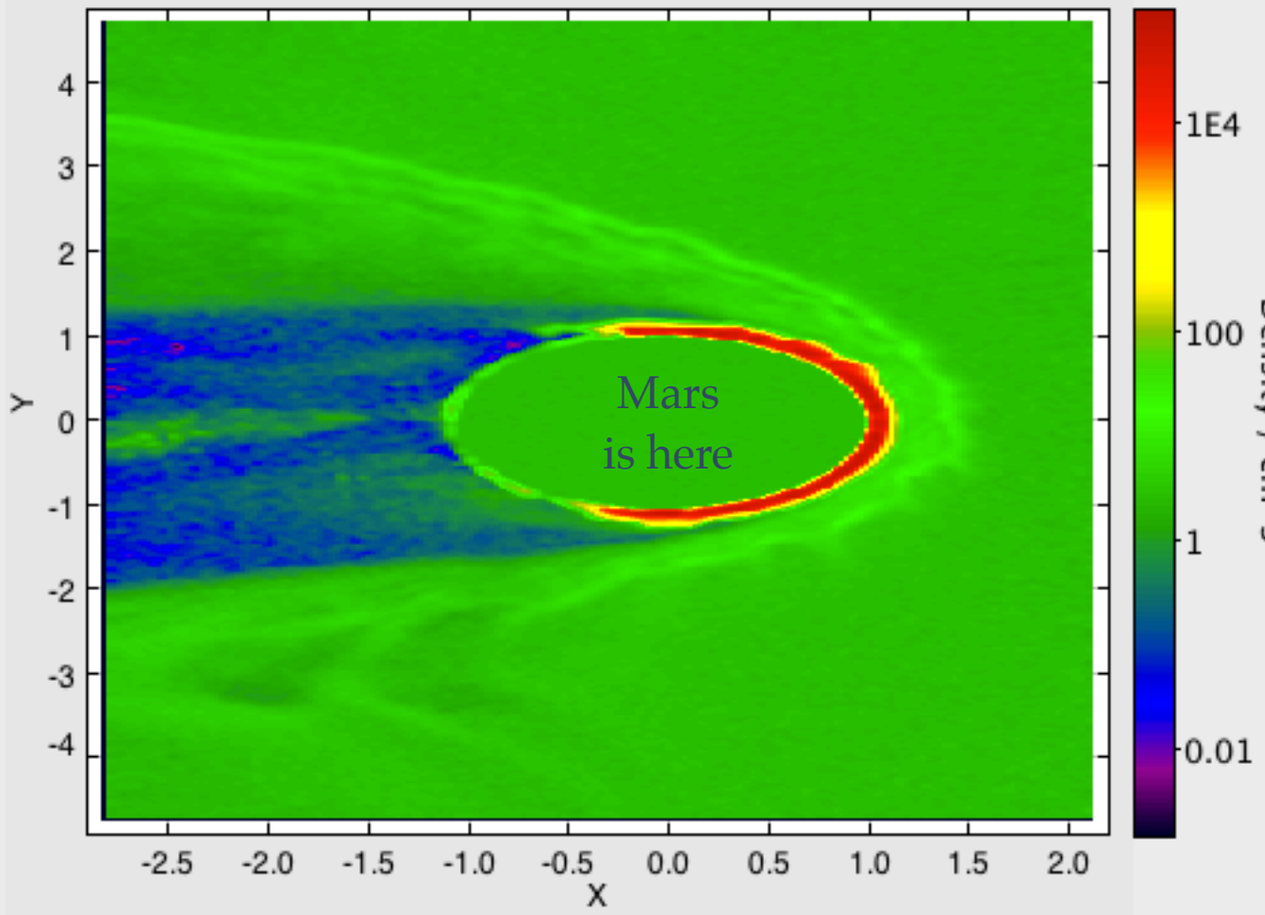


Table Columns for 2: res

	Visible	Name
0	☐	Index
1	☑	X
2	☑	Y
3	☑	Z
4	☑	Density
5	☑	Ux
6	☑	Uy
7	☑	Uz
8	☑	Utot
9	☑	Temperat

	Dataty
ition3D.Value3.C1	float
ition3D.Value3.C2	float
ition3D.Value3.C3	float
	float
	float
	float
	float
	float
	float
	float

Main

Data

Table: 2: results

X Axis: X Log Flip

Y Axis: Y Log Flip

Aux 1 Axis: Density Log Fl

Row Subsets

All

Potential: 77 972 Included: 77 972 Visible: 77 972 Position:(

AMDA-NG4/Migration Step - Virtual Desktop Application

cdpp1.cesr.fr/AMDA-NG/desktop.php

forums Mission CDPP Cassini STEREO Webmail Banques Revues English YT->MP4 DOI Reservations [OBSPM] sellercentral-Amazon.fr

AMDA-NG4/Migration Step - Virtual Desktop Application | LatHyS

Workspace Explorer

resources | operations | jobs

Filter : None

- Time Tables
  - My Time Tables
- My Files
  - 2005047_sounder.txt
  - SKR_phase_dataset_2004.xml
  - Bfield_XY_14_01_13.xml
  - Mag_13_02_13_MAVEN_ephem_2014_10_0.0
  - CO2_14_01_13_orbit_MeX_2007_07_12_180
  - Vel_13_02_13_MAVEN_ephem_2014_10_180
  - SKR_phase_dataset_2005.xml
  - Efield_XY_14_01_13.xml
  - Ele_14_01_13_orbit_MeX_2007_07_12_0.0.x
  - Thew_XY_14_01_13.xml

Log

Clear

Define parameter

Parameter Name:

File Name/Mask

Vel_13_02_13_MAVEN_ephem_

Parameter Data Type: FLOAT

Parameter Start Position:

Parameter Size:

Min Sampling: 60

Max Sampling: 60

Filling Value:

Y Title:

Legend:

Vel_13_02_13_MAVEN_ephem_2014_10_180.0.xml

Utot Uy

Ux Uz

Save Reset

Information

This is info zone...

Start | Workspace Explorer | Define parameter | 12:20 PM

Afficher un menu

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- Europlanet Client at VOParis

TOPCAT

TOPCAT(1): Table Parameters

Table Parameters for 1: loc_3A_SPV_2008268_18.xml

Name	Value	Description	UCD
Name	loc_3A_SPV_2008268_18.xml	Table name	
Column Count	17	Number of columns	
Row Count	35256	Number of rows	
Description	SKR Location data file from Cassini/RPWS/HFR 3 Antenna GP dat...		
Catalog Start Time	2008-09-24T18:00:00.000Z		time.start
Catalog Stop Time	2008-09-24T18:59:99.999Z		time.stop
Name	Baptiste Cecconi		
SPASE Person ID	spase://SMWG/Person/Baptiste.Cecconi		
CreateDate	2011-02-29T15:44:00.000Z		time.creati
ModifyDate	2011-02-29T18:40:00.000Z		

Name:

Class:

Shape:

Units:

Description:

UCD:

Utype:

Value:

TOPCAT

Table List

1: loc_3A_SPV_2008268_18.xr

Current Table Properties

TOPCAT(1): Table Columns

Table Columns for 1: loc_3A_SPV_2008268_18.xml

	Visible	Name	$ID	Class	Units	Description	UCD	Datat
0	☐	Index	$0	Long		Table row index		
1	☑	time	$1	String		Cassini SCET	time.epoch	char
2	☑	frequency	$2	Float	kHz	Frequency of Observation	em.freq	float
3	☑	antenna_code	$3	Integer	none	Antenna combination code	meta.id	int
4	☑	snr_channel_1	$4	Float	dB	SNR on Channel 1	stat.snr	float
5	☑	snr_channel_2	$5	Float	dB	SNR on channel 2	stat.snr	float
6	☑	stokes_s	$6	Float	V^2/Hz	Stokes parameter S (Flux Density)	em.radio;phot.flux.density	float
7	☑	stokes_q	$7	Float	%	Stokes Parameter Q (Linear polarization degree)	phys.polarization.stokes;phys.pola...	float
8	☑	stokes_u	$8	Float	%	Stokes Parameter U (Linear polarization degree)	phys.polarization.stokes;phys.pola...	float
9	☑	stokes_v	$9	Float	%	Stokes Parameter V (Circular polarization degree)	phys.polarization.stokes;phys.pola...	float
10	☑	x_ssq	$10	Float	km	Source location in Saturn Solar Equatorial (SSQ) coordinates (X...	pos.cartesian.x	float
11	☑	y_ssq	$11	Float	km	Source location in Saturn Solar Equatorial (SSQ) coordinates (Y...	pos.cartesian.y	float
12	☑	z_ssq	$12	Float	km	Source location in Saturn Solar Equatorial (SSQ) coordinates (Z...	pos.cartesian.z	float
13	☑	r_foot	$13	Float	km	Magnetic footprint location of radiosource in Saturn Solar Equa...	pos.bodyrc.alt	float
14	☑	lat_foot	$14	Float	deg	Magnetic footprint location of radiosource in Saturn Solar Equa...	pos.bodyrc.lat	float
15	☑	long_foot	$15	Float	deg	Magnetic footprint location of radiosource in Saturn Solar Equa...	pos.bodyrc.long	float
16	☑	beam_opening	$16	Float	deg	Measured opening angle of the radio source beaming pattern	pos.posAng	float
17	☑	dist	$17	Float	km	Straight light propagation distance to iso-Fc surface. Iso-Fc su...	pos.distance	float

TOPCAT

Table List

1: loc_3A_SPV_2008268_18.xr

Current Table Properties

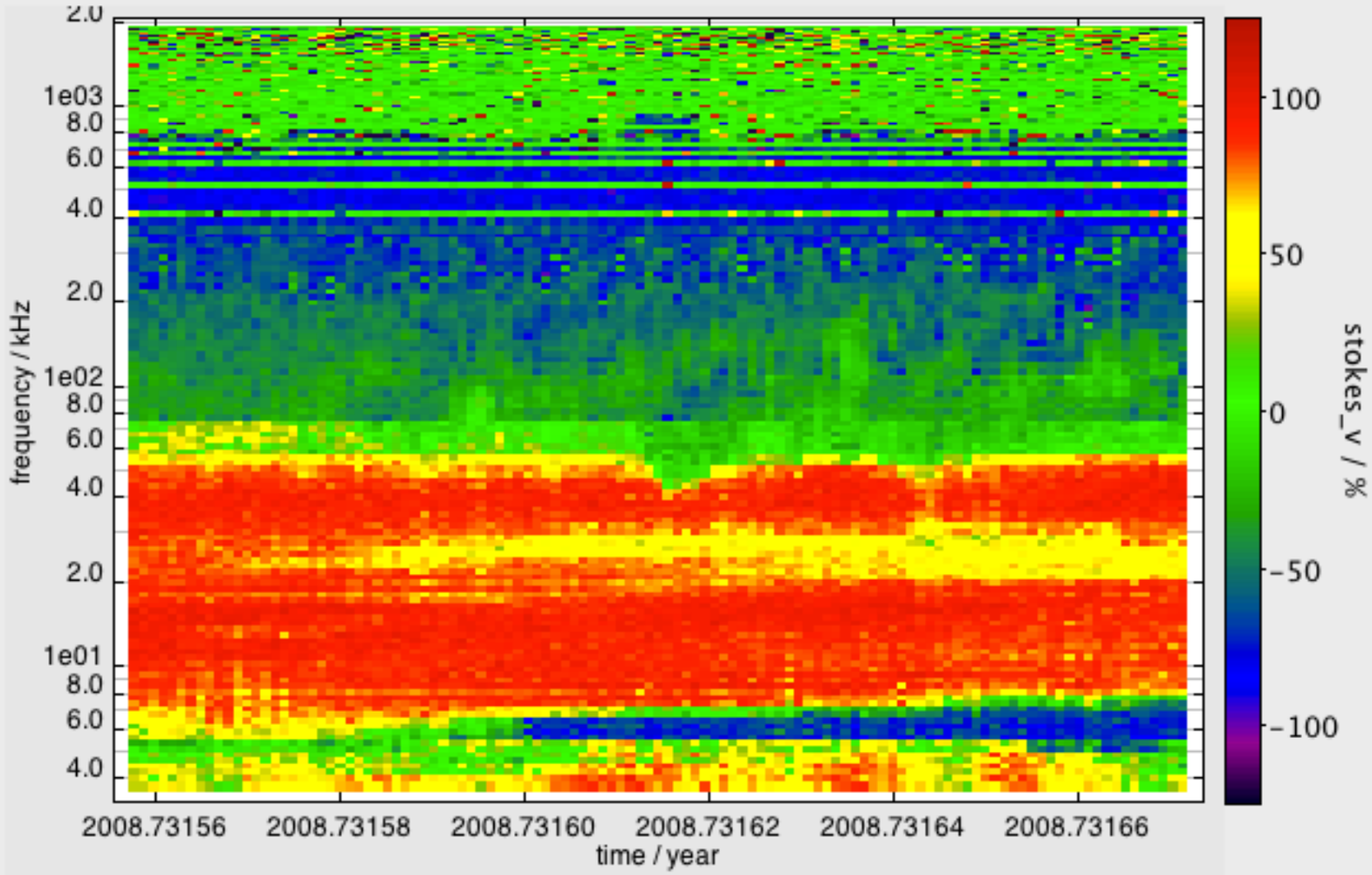
Label: loc_3A_SPV_2008268_18.xml

TOPCAT(1): Table Browser

Table Browser for 1: loc_3A_SPV_2008268_18.xml

	time	frequency	antenn...	snr_channel_1	snr_channel_2	stokes_s	stokes_q	stokes_u
1	2008-09-24T18:00:11.140Z	3,6856	11	19,4803	21,6288	2,32804E-14	-20,8362	12,5162
2	2008-09-24T18:00:11.140Z	3,863	11	23,1336	22,114	2,17606E-14	-7,5608	5,81703
3	2008-09-24T18:00:11.140Z	4,0489	11	21,4208	20,1434	1,97171E-14	-40,467	5,13158
4	2008-09-24T18:00:11.140Z	4,2437	11	21,6425	20,1894	1,32410E-14	-13,3638	-9,30969
5	2008-09-24T18:00:11.140Z	4,448	11	22,4733	19,3944	1,95923E-14	-25,483	-22,7301
6	2008-09-24T18:00:11.140Z	4,662	11	21,8477	18,5011	7,50072E-14	-61,7941	-59,8002
7	2008-09-24T18:00:11.140Z	4,8864	11	19,2786	18,2874	3,25546E-12	-55,5136	82,445
8	2008-09-24T18:00:11.140Z	5,1215	11	22,6399	18,2237	3,75315E-14	-35,7587	33,9226
9	2008-09-24T18:00:11.140Z	5,368	11	16,1082	17,0273	1,76410E-14	-42,6776	33,168
10	2008-09-24T18:00:11.140Z	5,6263	11	17,9749	17,5672	8,74972E-15	8,74416	3,66727
11	2008-09-24T18:00:11.140Z	5,8971	11	17,6009	18,8241	3,38019E-14	-54,4925	57,7426
12	2008-09-24T18:00:11.140Z	6,1809	11	17,8089	20,4036	1,02353E-14	-9,9243	-6,2292
13	2008-09-24T18:00:11.140Z	6,4783	11	17,2639	18,0282	8,03935E-15	-31,7401	17,6438
14	2008-09-24T18:00:11.140Z	6,7901	11	16,3899	17,964	4,90819E-15	-0,060158	-5,44899
15	2008-09-24T18:00:11.140Z	7,1169	11	20,8071	23,3554	1,87782E-14	-17,8812	6,06113
16	2008-09-24T18:00:11.140Z	7,4594	11	22,9031	24,1923	1,58554E-14	12,8981	-11,6347
17	2008-09-24T18:00:11.140Z	7,8184	11	22,7891	25,6867	2,20118E-14	19,6335	4,63591
18	2008-09-24T18:00:11.140Z	8,1946	11	23,3745	24,87	2,05758E-14	6,33813	1,52559

Scatter Plot



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: time Log Flip

Y Axis: frequency Log Flip

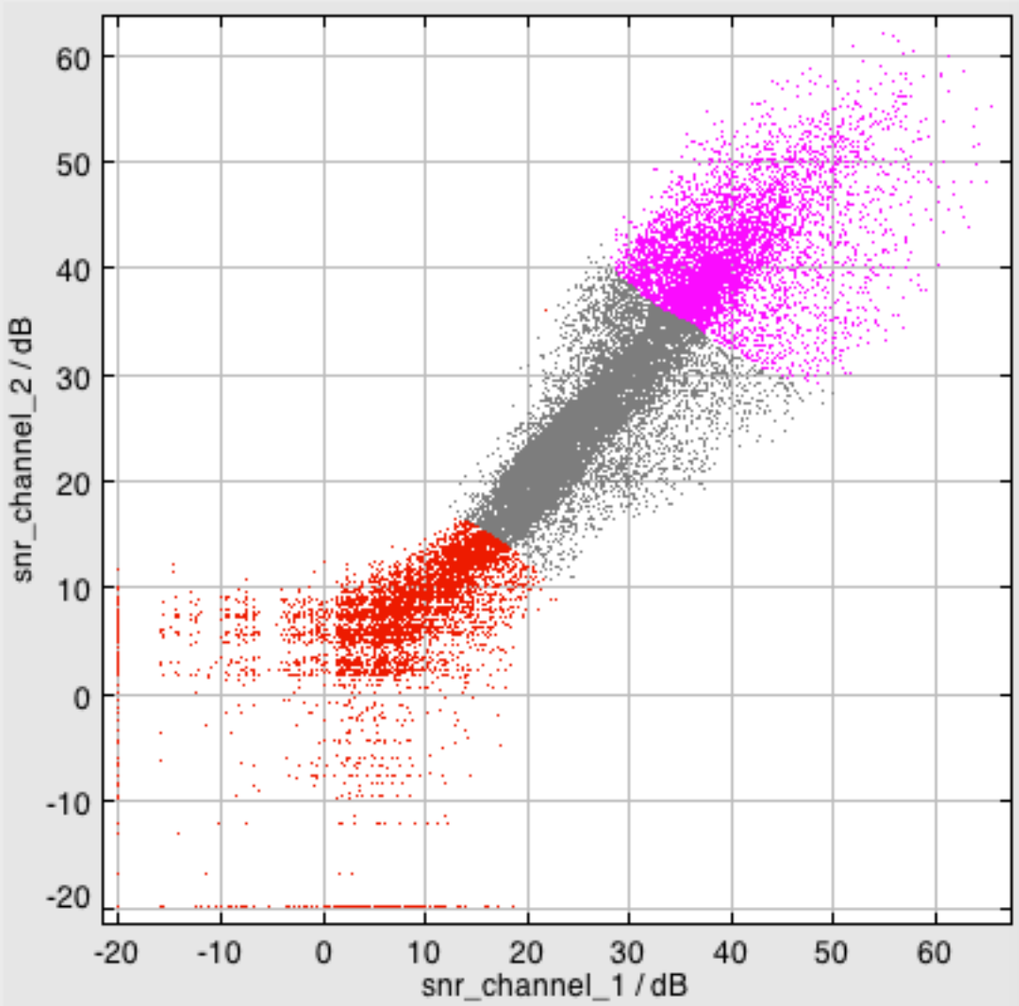
Aux 1 Axis: stokes_v Log Flip Ra

Row Subsets

All

P7/JRA-IDIS/•• Publis-VOTable/rpws_

Scatter Plot



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: snr_channel_1 Log

Y Axis: snr_channel_2 Log

Row Subsets

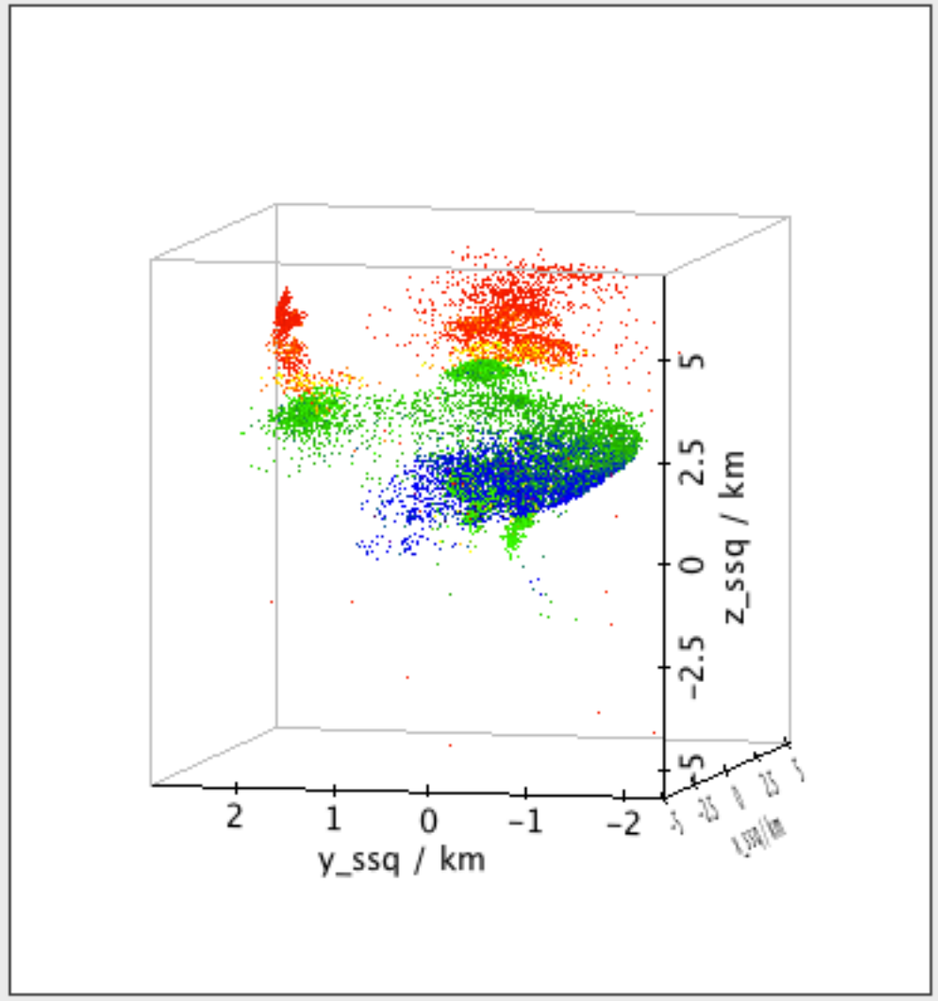
All

good_snr

high_snr

Potential: 35 256 Included: 35 256 Visible: 35 256

3D



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: x_ssq Log

Y Axis: y_ssq Log

Z Axis: z_ssq Log

Aux 1 Axis: stokes_v Log

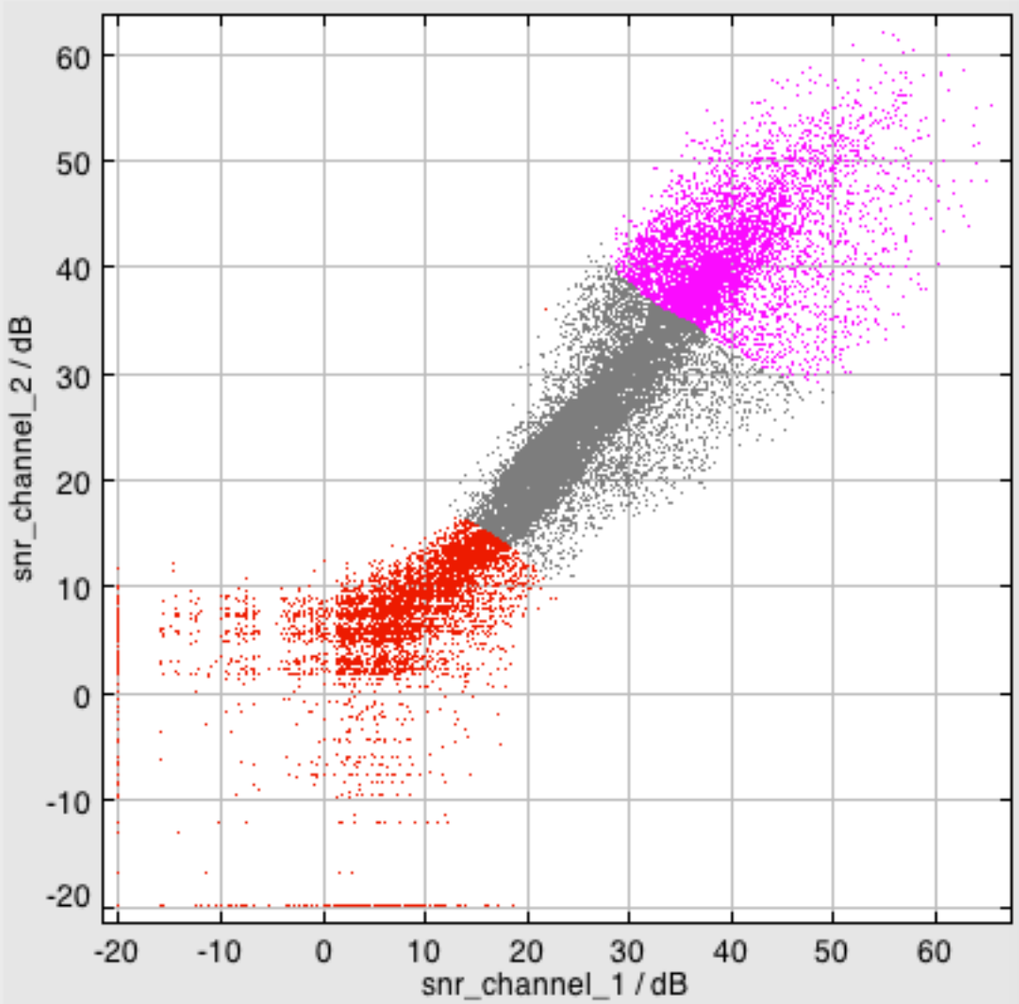
Row Subsets

All

good_snr

high_snr

Scatter Plot



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: snr_channel_1 Log

Y Axis: snr_channel_2 Log

Row Subsets

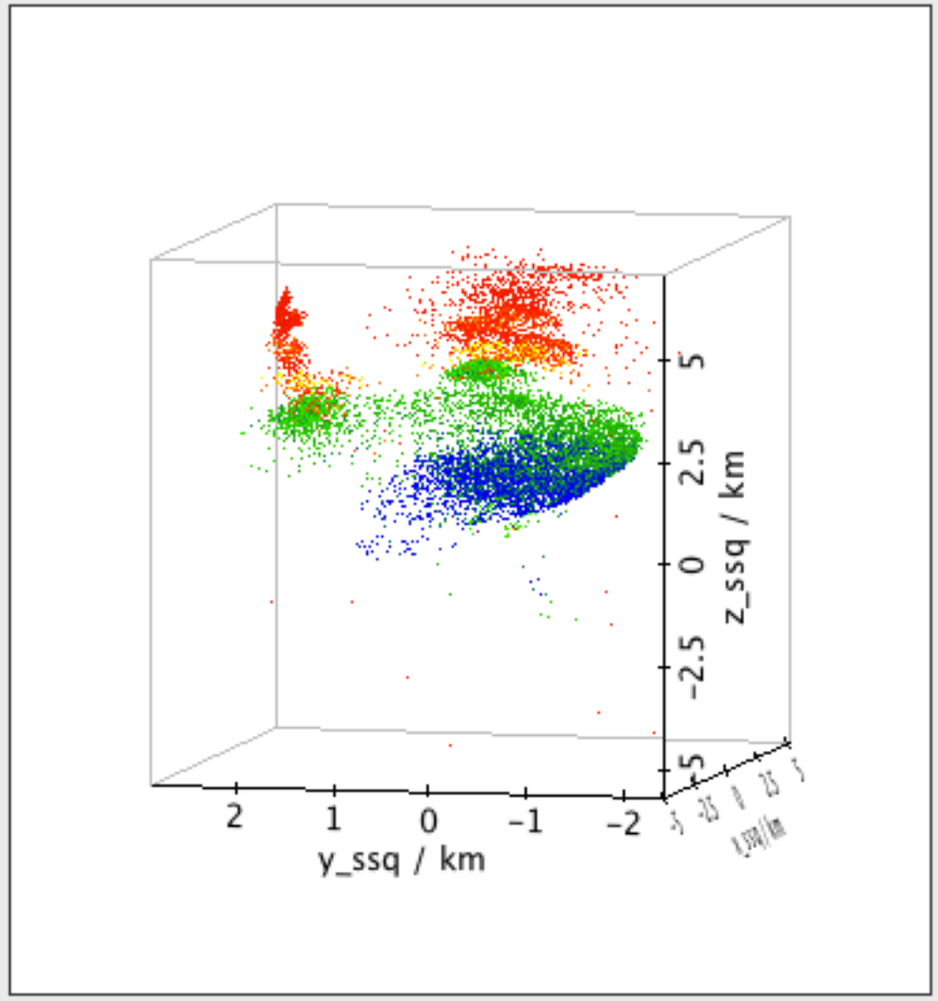
All

good_snr

high_snr

Potential: 35 256 Included: 35 256 Visible: 35 256

3D



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: x_ssq Log

Y Axis: y_ssq Log

Z Axis: z_ssq Log

Aux 1 Axis: stokes_v Log

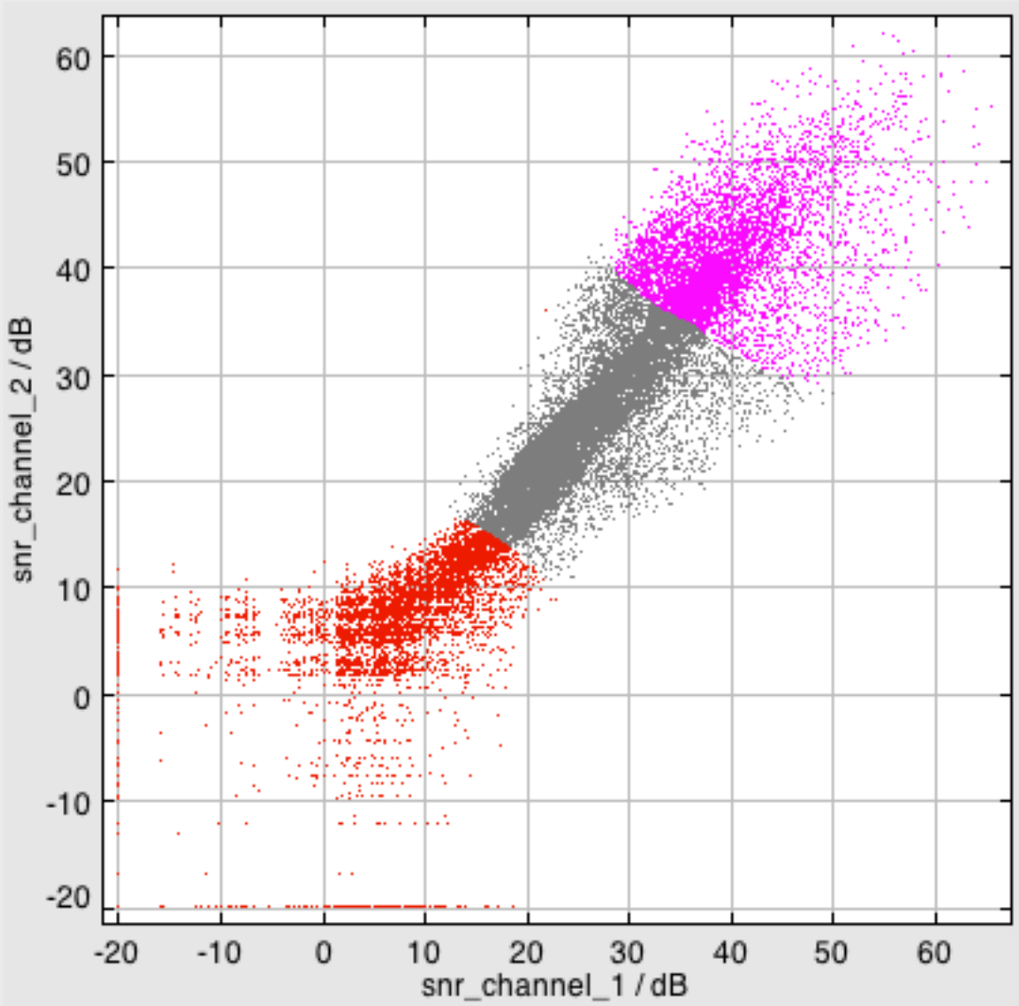
Row Subsets

All

good_snr

high_snr

Scatter Plot



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: snr_channel_1 Log

Y Axis: snr_channel_2 Log

Row Subsets

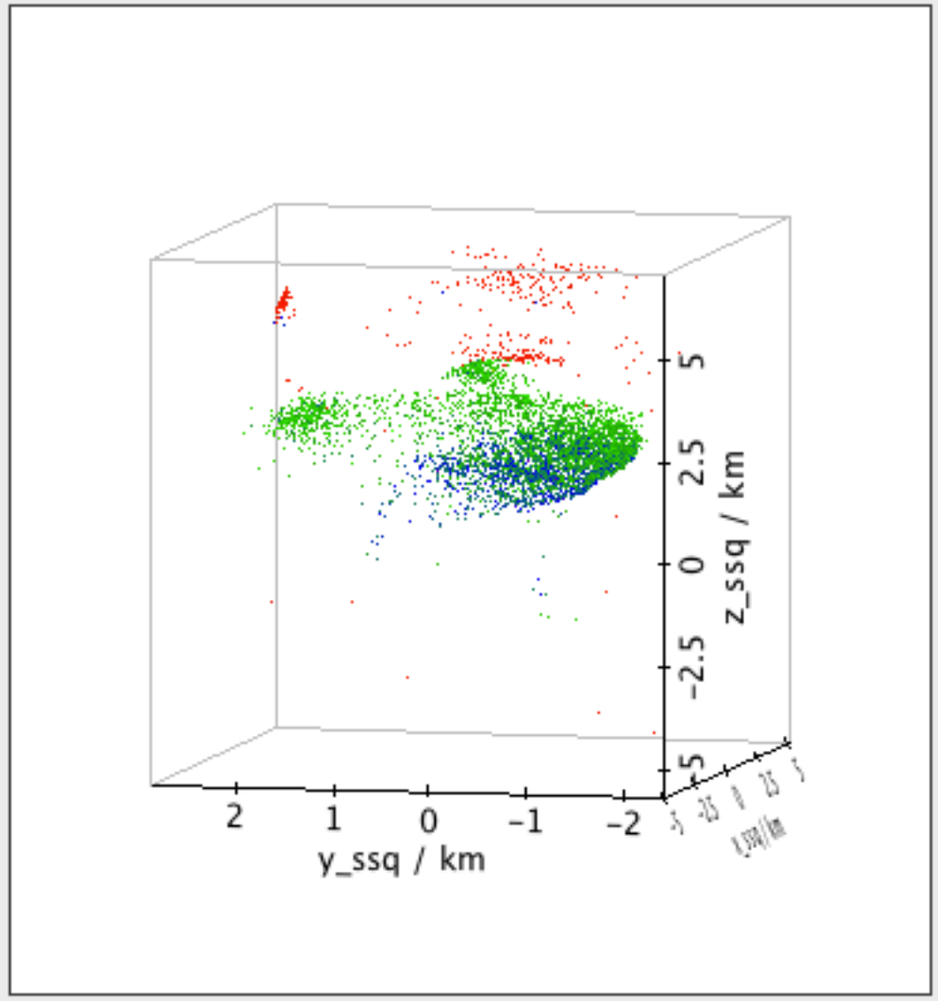
All

good_snr

high_snr

Potential: 35 256 Included: 35 256 Visible: 35 256

3D



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: x_ssq Log

Y Axis: y_ssq Log

Z Axis: z_ssq Log

Aux 1 Axis: stokes_v Log

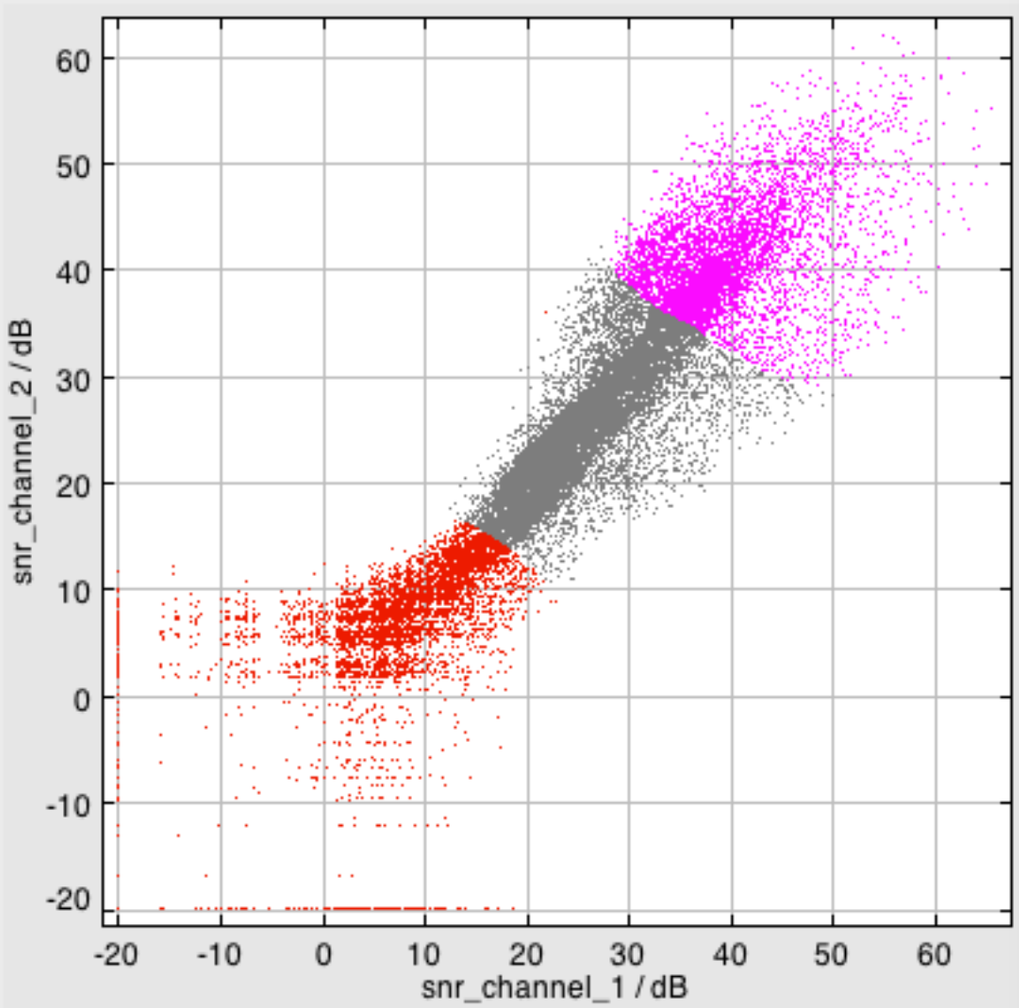
Row Subsets

All

good_snr

high_snr

Scatter Plot



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

X Axis: snr_channel_1 Log

Y Axis: snr_channel_2 Log

Row Subsets

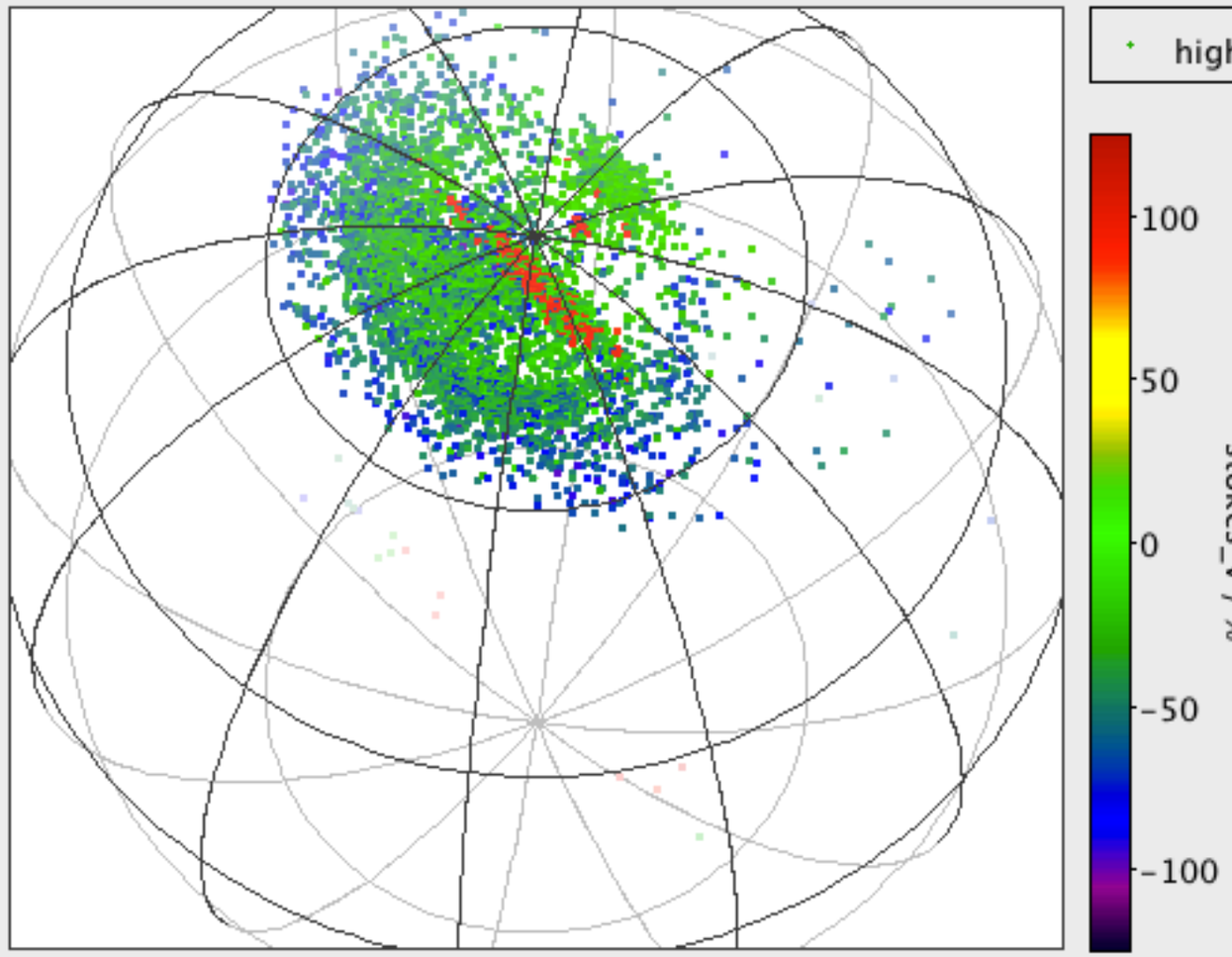
All

good_snr

high_snr

Potential: 35 256 Included: 35 256 Visible: 35 256

Spherical Plot



Main

Data

Table: 1: loc_3A_SPV_2008268_18.xml

Longitude Axis: long_foot degrees

Latitude Axis: lat_foot degrees

Radial Axis: r_foot Log

Aux 1 Axis: stokes_v Log Flip

Row Subsets

All

good_snr

high_snr

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