

ViRBO Developments

This presentation is available at <http://virbo.org/presentations>

1. Objective

- Summarize metadata efforts.
- Summarize recent ViRBO developments that may relevant to scenario list.

2. Metadata

2.1. Completed

- Observatory and instrument SPASE descriptions complete for RBSP.

2.2. Pending

- Code to automate transform of CDF Metadata to SPASE NumericalData Records.
- Requires ISTP CDF files (I will get these through Bob McGuire).

2.3. Other

Non-SPASE metadata/information management

- Anticipating need to manage non-SPASE metadata incl. bookmarks, vaps (ViRBO AutoPlot configuration files), "pngwalks", event lists, etc.
- There are now 100s of Autoplot vaps, 10s of bookmark lists, and 10s of pngwalks "out there". I want to make these easy to find.

3. Visualization

3.1. Note

- Three general use-cases for science visualization.
- No single application can be used for all. (Although some overlap.)
- There is a need for all three types of options.

Three general use-cases for science visualizations

Use case	Primary Interface	GUI type	Calculations	Examples
Quick overview and browse	web browser	simple	little	ViViz (http://viviz.org), Quicklook
Comprehensive visualization	not web browser	sophisticated	some	MIDL, Autoplot (http://autoplot.org)
Output from analysis	command line/script	minimal	any	TDAS

3.2. Update 1: New Autoplot Release

- Final beta testing of SPA announcement for Autoplot. (Draft of Announcement (<http://autoplot.org/spa>)).
- New version comes with 10,000+ bookmarks (try it (<http://autoplot.org/autoplot.jnlp?mode=basic&open=bookmarks:http://autoplot.org/bookmarks/heliophysics.xml>))

This release introduces three types of bookmarks:

1. Raw

- Selecting a raw bookmark will result in an attempt at an automatic single-panel display of data from a given data provider.
- Some GUI interaction may be required for some bookmarks.
- ~80% of the CDAWeb Raw Bookmarks should "just work".

2. Special Views

- Stylized plots using data from many data providers. For examples, see the ViRBO sub-folder.
- Growing list of Special Views: <http://virbo.org/gallery>
- To interact with data, Start Autoplot (<http://autoplot.org/autoplot.jnlp?mode=basic&open=bookmarks:http://autoplot.org/bookmarks/heliophysics.xml>) and select **Bookmarks->Heliophysics->ViRBO** (bookmarks take ~5 seconds to load).
- Special Views are generally created by scientists using the Expert GUI mode and Raw Bookmarks and then contributed to ViRBO's Special Views repository.
- A tutorial for creating special views will be presented at the Summer 2012 GEM workshop.

3. Overviews

- A data set for which the initial view is of the full time range of available data. Draw a box on a time range to zoom in on a specific time interval.

- Overviews are available in Autoplot under the ViRBO bookmarks folder.
- Overviews will eventually be available from a web browser (demo page: [1] (<http://virbo.org/overview>)).

3.3. Update 2. New Visualization Options

Introducing ViViz (<http://viviz.org>) (ViRBO Visualizations)

- Tools for browsing data in a web browser
- It is an out-growth of both a research project that needed visualization 1000s of images, each image with certain attributes [2] (<http://viviz.org/demo/Template2.html>)

Two components:

1. Gallery - browse pre-generated Special Views in web browser
2. Overview - browse Overviews in web browser

3.4. ViViz Gallery

- Multi-mode browse and sort stylized pre-generated images, each image covering short time range.
- Each image is pre-generated using an Autoplot Special View VAP configuration file
- Each image may have sortable attributes stored in a configuration file
- List of existing galleries: <http://virbo.org/gallery>
- Eventual interface: <http://viviz.org/gallery?http://server/path/to/thumbnails>

3.5. ViViz Overview

- Drill-down browse of certain parameters over long time range.
- Uses Autoplot (<http://autoplot.org/>) and TSDS (<http://tsds.net/>) servers on the back-end.
- Under development. See [3] (<http://virbo.org/overview>) for demo.

3.6. What I need

Information:

- What types of galleries are of interest? Special Views?
- Sample CDF files (I will get these through Bob McGuire).
- Locations that you will store Autoplot bookmark and vap files. I want to make these searchable.

4. Acknowledgments

- Bob Weigel (GMU): PI
- Dan Baker (LASP): Initial proposal
- Janet Green (NGDC): Initial proposal, Data
- Reiner Friedel (LANL): Data
- Ribao Wei (GMU): Catalog metadata
- Sheng Li (GMU): Catalog metadata
- Victoir Veibell (GMU): Data Views
- Brian Curtis (GMU): Data Views

- Paul O'Brien (Aerospace): Data
- Yuri Shprits (UCLA): Data
- Sébastien Bourdarie (ONERA): Data
- Eric Kihn (NGDC): Metadata
- Jeremy Faden (Cottage Systems): IOSPs
- Aaron Roberts (GSFC): VSPO
- Bob McGuire (GSFC): CDAWeb