

GIPSY in the VO

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Summary

GIPSY as a VO server

- VO server logic
- Data cubes status in the VO
- VO Services with data cubes

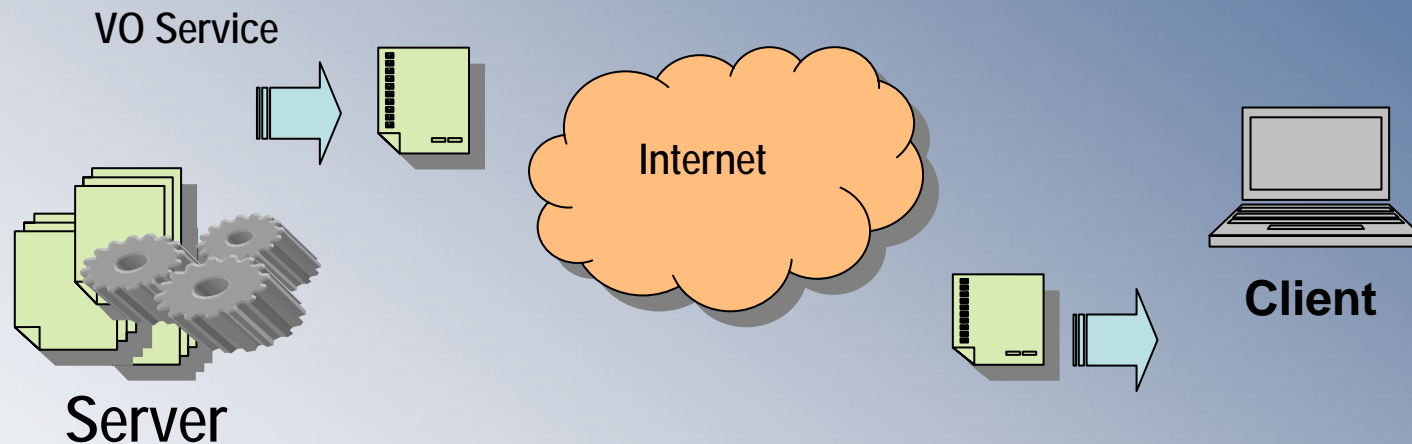
GIPSY as a VO client

- VO Data for GIPSY
- VO Software for GIPSY
 - Aladin
 - Topcat
 - VOSpec

Opportunities and Requirements

VO server logic

Better move metadata, not all the data itself



Where are the data? Stored in servers

How can I access data? Asking VO services

Make yourself be understood: asking by using VO protocols

Data come in VOTable format to be easily understood

Data cubes status in the VO

- No VO standard access protocols yet
 - Undiscovered land
 - No demand (yet) for data cube access
 - Waiting for ALMA
- Active efforts to patch existing protocols
 - SIAP for Images
 - SSAP for Spectra
 - Not intended for cubes but for slices
- Data cubes client is interested in can be really huge
 - Hard to handle in a query/response VO logic

V0 Services with data cubes

Display

- 3-D sub-cubes
- Spectrum extraction
- Whole dataset for smaller cubes
- 2-D planes along any pair of axes
- Resampling / reprojection
- Previews, continuum map, velocity field, etc...

Analysis

- Anything a sophisticated software like GIPSY can do

VO Data for GIPSY

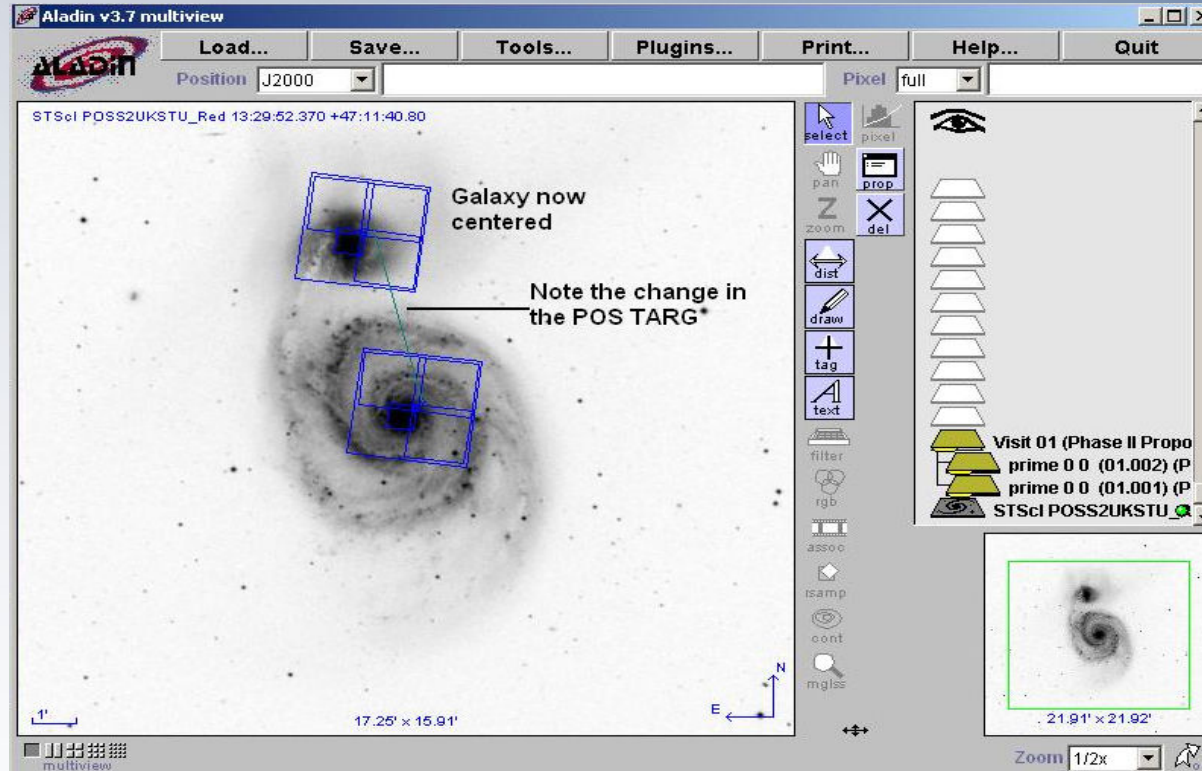
- Access to NED/Simbad catalogues
- Access to DSS/SDSS images
- Access to spectral libraires
- VO world is a growing ecosystem
 - Data
 - Services
 - Software
- Other capabilities
 - Possible query to specific advanced GIPSY users

VO Software for GIPSY

- Data and images discovery
 - Aladin, AstroGrid
- Data visualization and handling
 - Topcat, VOPlot, VisIVO
- Spectral analysis
 - VOSpec, SPLAT, SpecView
- SED building, fitting, others...
 - VOSED, Yafit, MADCUBA

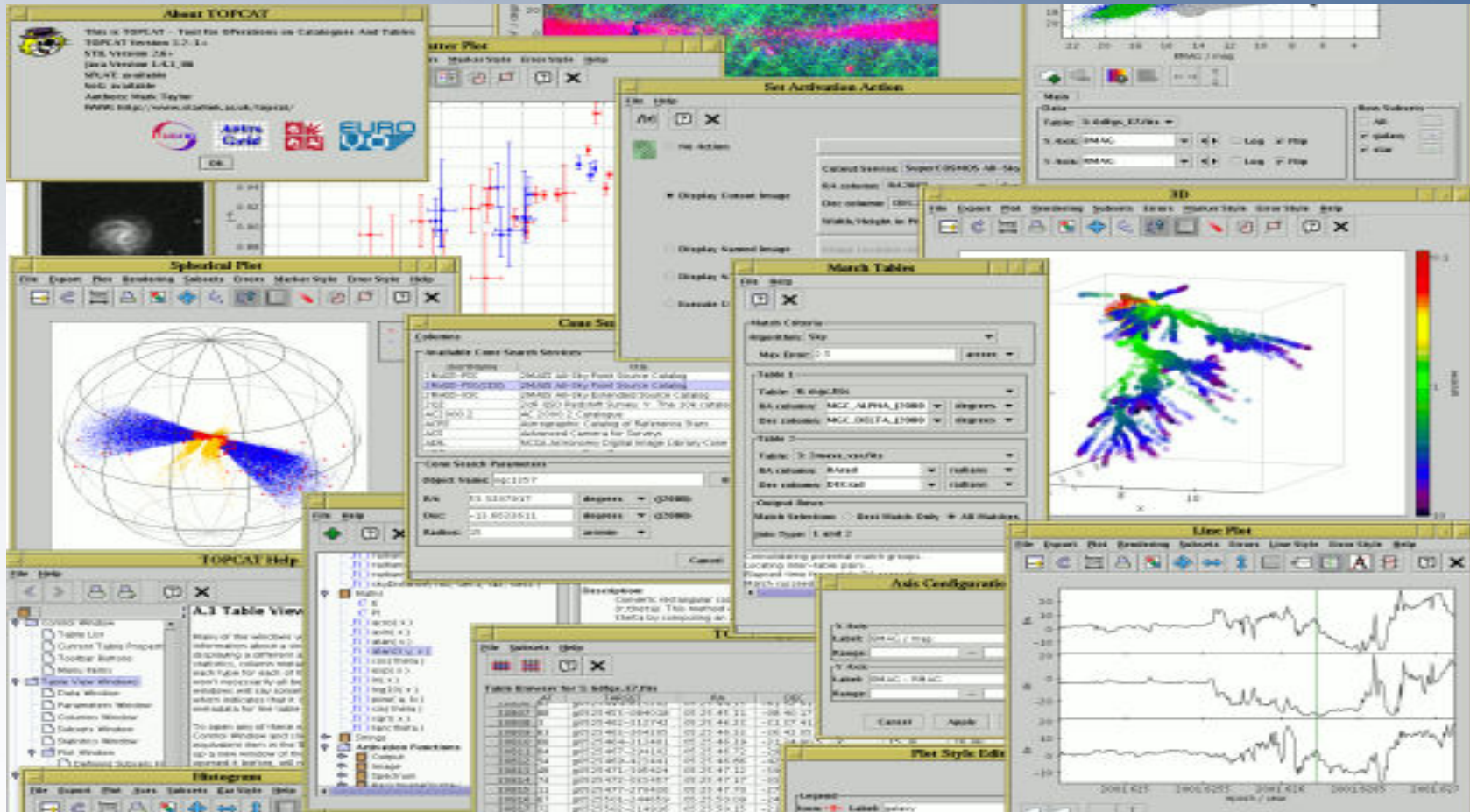
Aladin

Interactive sky atlas allowing the user to visualize digitized astronomical images and overlap entries from astronomical catalogues or databases.



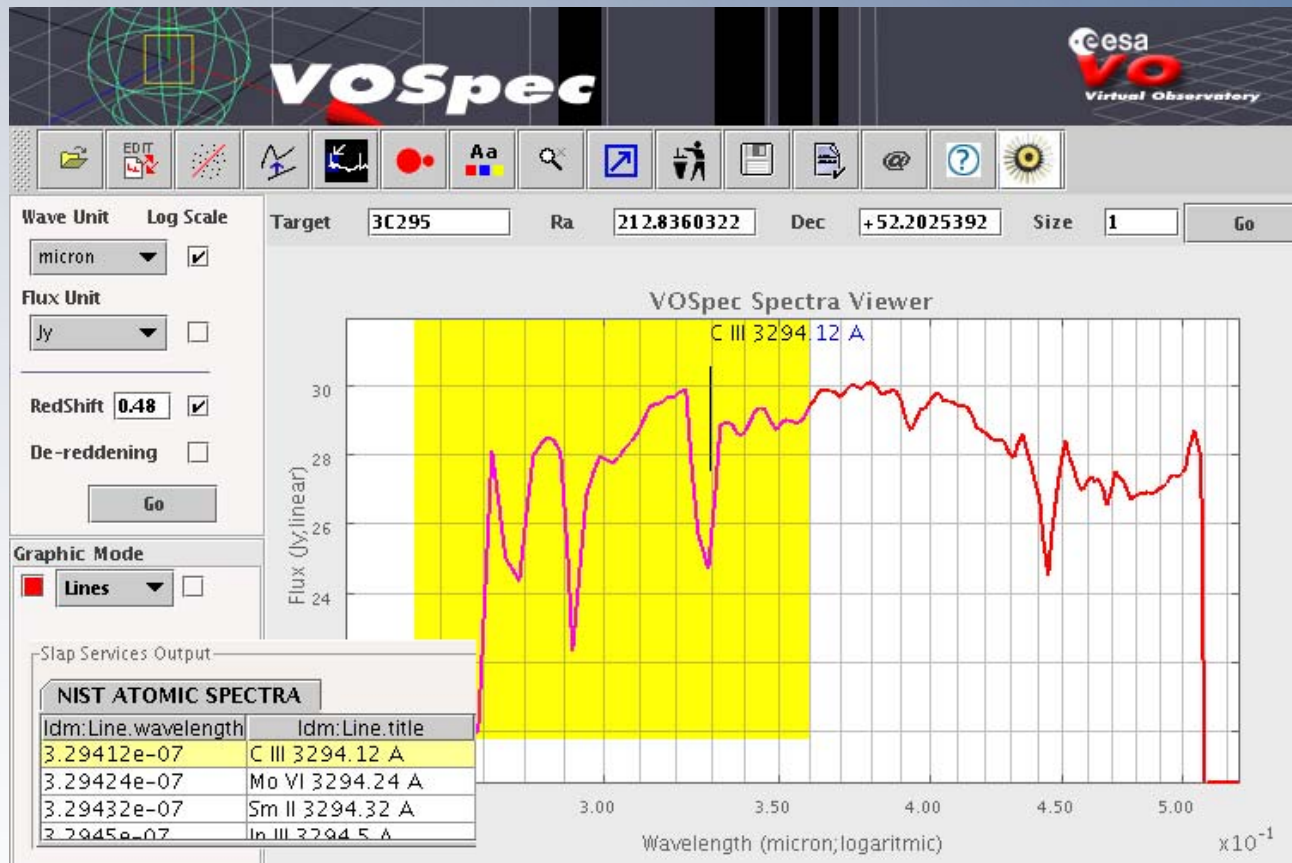
Topcat

Interactive graphical viewer and editor for any tabular data.



VOSpec

Multiwavelength spectra analysis tool, with access to Spectra data and Spectral services.



Opportunities

- A better GIPSY
 - seamless access to external VO software
 - access to data/images/spectra catalogs
 - improving usability and user-friendliness
- Modularity
 - export GIPSY algorithms into other software-packages (MADCUBA)
- “No high level tools planned for ALMA” (ALMA Day, 2007)
- Establish VO standard data cubes protocols
- Improve GIPSY visibility in the community
- VO services for data cubes (mid to long term)

Requirements

- Better wrapping than touching inside (Python)
[unless additional development goals considered]
- Universal input data format (FITS)
- Full compatibility with any relevant existing radio interferometer
- Portable as VO client