



CASDA DAL Implementations

CSIRO Information Management & Technology

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Australian SKA Pathfinder (ASKAP)



- 36 × 12 m dishes
- Max baseline = 6 km
- Phased array feeds – 188 elements
- 30 deg² FOV

- 700 – 1800 MHz
- 300 MHz Bandwidth
- 16,384 channels

- Early science commenced



ASKAP Data Products

- Calibrated visibility data files (CASA)
 - Image cubes (FITS)
 - Single plane images (FITS)
 - Moment Maps (FITS)
 - Spectra (FITS)
 - Catalogues (VOTable)
-
- Daily Volume: 16TB, ~60,000 files
 - Annual Volume: 5 PB

Releases

- V1.3 – June 2016
 - Cutout web interface
 - VO compliance improvements
 - SODA validator
- V1.4 – October 2016
 - Add spectra, moment maps,
- V1.5 – December 2016
 - Predefined spectra support including SSAP discovery
- v1.6 - March 2016
 - Generated spectra support plus SSAP retrieval,
 - Upload of arbitrary images and spectra - derived data products

SSAP Support

- Based on our SIA2 implementation
 - Database view to implement spectral DM
 - Class for each parameter
- No Datalink
- Included DALI endpoints
- Should SSA be updated to refer to DALI, SimpleDALRegExt?
- Client: Splat-VO

SODA – Spectra Generation

- Added support for generating spectra
- Process:
 1. Sub-cube cutout
 2. Flattens that into a 1D spectrum
- Montage for subcube
- Python script for flattening into a spectrum
- Uses an internal id to switch from subcube to spectrum action - no local SODA triple yet

Another Deployment



Future

- MOCs for surveys
- More use of HiPS
- TAP upload support
- Examples endpoints
- Time series - e.g. Pulsars, FRBs

Summary

- Open Source
 - https://github.com/csiro-rds/casda_data_access
- Operational and being expanded

Thank you

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