



ATNF Data Archives

For ATUC

Minh Huynh | Oct 2023

Australia's National Science Agency





ATNF Archives

- Australia Telescope Online Archive (ATOA)
 - ATCA, Parkes spectral/cont, LBA correlated data
- Parkes Pulsar Archive (Data Access Portal)
 - Parkes pulsar data
- CSIRO ASKAP Science Data Archive (CASDA)
 - ASKAP science data products

Credit: CSIRO





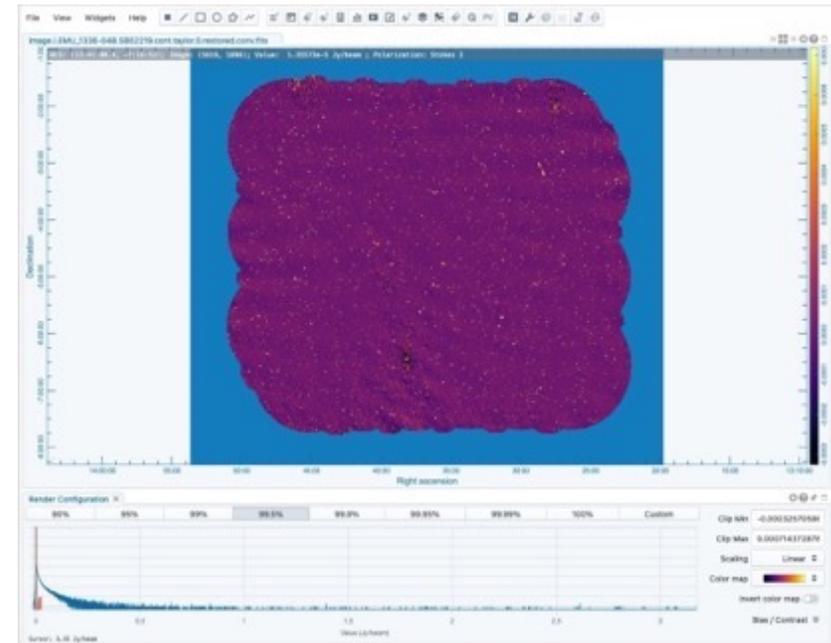
Recent CASDA Developments

- Migration of deposit modules to Setonix (completes server and storage migration work, 18+ months)
- CARTA visualization tool now available in CASDA
- Navigation and UI/UX enhancements, from 2022 usability study
- Preparation for ATOA migration



CARTA Visualisation

- View and do basic analysis of images/cubes, without downloading to your local computer
- Click on CARTA icon, or “View in CARTA” option in download dialogue



CSIRO Data Access Portal

ASKAP Observation Search Results

CSIRO | My Collections | Tools | Home, Min |

SEARCH | CATEGORIES | SCIENTIFIC DOMAINS | CONTACT US | HELP

ASKAP Observation Search Results

Advanced View: released | Page: 1/21 | 1/21

CSIRO recommends using [VOTable](#) to search for and access catalogue information.

Refine results: Clear all | Catalogue | Image cubes | Visibility | Auxiliary | Download

Primary Investigators: HIGGINS, MCDONALD

Catalogue Types: continuum_component (97) | continuum_image (3)

Quality Levels: 0000-9400

EBUs: 432

Release	Preview	Released Status	Released Date	Project(s)	RA (J2000)	Dec (J2000)	Filename	Type	File Size
13N-048-3852276		Released	2023-09-20 17:25:51	ASKAP	13:36:42.981	-64:45:31.826	image_13N_1336-048-3852276_carta Taylor & Redmond core file	carta_redmond_70	717.28 MB
13N-048-3852276		Released	2023-09-20 17:25:51	ASKAP	13:36:42.981	-64:45:31.826	image_13N_1336-048-3852276_carta Taylor & Redmond core file	carta_redmond_70	717.28 MB
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Download

Select a method:

- Download from a public web site
- Access data with a private VAPC account
- View in CARTA**

Download File



CASDA Work: Current Big Ticket Items

- ATOA analysis and migration to CASDA
 - Deposit module work
 - Data access, UI updates
- Download enhancements
 - Benchmark and test speeds to locations, nationally and internationally
 - Investigate use of GLOBUS



Parkes Pulsar DAP Updates

- Migration to S3/object storage nearly complete
 - Deposits now to new storage, old collections being migrated
 - Better access to data across collections, easier/faster downloads (rclone)
 - Increase DAP ingest rates
 - Better accommodate large UWL+CryoPAF data rates.
 - Increase still TBC, but could be >5 times previous rate
- What to archive with CryoPAF? (max data rates of up to ~9TB/hour in extreme search mode)
- Already unable to archive all UWL datasets (users must specify an endpoint for projects > 10 TB/sem)
- Working on data storage and access policy required for CryoPAF



ATOA Migration to CASDA

- BIGCAT and CryoPAF will increase data rates in 2023+
 - ATCA BIGCAT up to 0.5 PB per year, nominal max rate 100MB/sec
 - Parkes UWL and CryoPAF continuum/spectral data 100 to 200 TB(?) per year
 - UWL is currently 10s TB per semester to ATOA (60TB expected in OCT2023)
- High Level Requirements:
 - Meet the future Parkes and ATCA data rates
 - Have same download and search capability as current ATOA
 - Data must be served in a manner meeting ATNF Data Policy (permissions)



ATOA Staged Migration to CASDA

Stage 1: take incoming (raw) new data, i.e. allow for switchover to CASDA

- ATCA (BIGCAT)
- Parkes spectral line and continuum (UWL and CryoPAF)
- VLBI (correlated data, FITS-IDI)
- **Planned completion: Feb 2024**

Stage 2: migrate current archived data

- Migrate ATCA, Parkes and VLBI (raw) data currently in ATOA
- **Planned Completion: mid/late 2024**

Stage 3: migrate remaining data

- Science data from Mopra (e.g. MALT90), HI Surveys?, RFI data, others?
- Need to do an assessment of best place for this data, may not be CASDA
- **Planned Completion: late 2024**



ATOA Metrics

Volume of data in
ATOA⁺

0.51 PB

No. of queries
received by ATOA^{*}

600 web-form and
1200 VO queries
per month

Requests successfully
delivered^{*}

~600 downloads,
~1.5 TB, per month

⁺ As at 30 June 2023

^{*} For Q2 2023



Parke Pulsar DAP Metrics

Volume of data in
DAP⁺

3.9 PB

No. of queries
received by DAP^{*}

400 search sessions
per month

Requests successfully
delivered^{*}

800 downloads, 20
TB, per month

* For Q2 2023

+ as of 30 June 2023



CASDA Metrics

Volume of data in
CASDA[#]

3.6 PB

No. of queries
received by CASDA^{*+}

400 web sessions,
66,000 VO queries
per month

Requests successfully
delivered^{*}

3,000, 90 TB, per
month

At 30 June 2023

* For Q2 2023

+ VO includes aggregators and HIPS sessions



Thank you

CSIRO Astronomy and Space Science

Minh Huynh

Senior Data Scientist and Astronomer, ATNF Science
Group Leader

+61 8 6436 8696

Minh.Huynh@csiro.au