



# NRAO Archive Access Tool (AAT)

*Anna D. Kapinska (NRAO)*

VLA 9<sup>th</sup> Data Reduction Workshop – October 2022



# Archive Access Tool (AAT)

*The “new” NRAO science data archive (2022- )*

## Post observations: obtaining your data

- (1) automatic email that observation was triggered
- (2) few days later: email about pipeline calibrated data (VLA),  
can be accessed from /lustre (14 days), OR
- (3) raw (VLA, VLBA) and pipeline calibrated data (VLA)  
available from the NRAO archive

Web address: <https://data.nrao.edu/>

Current version: AAT 4.2.0 (Oct 2022)

# Archive Access Tool (AAT)

## *Array Operator logs*

### Post observations: obtaining your data

- (1) **automatic email** that observation was triggered
  - in the email information on weather, time lost and reason, any problems with baselines, RFI etc
  - "Operator Log"**
  
- (2) Operator logs also available online:
  - currently: <http://www.vla.nrao.edu/cgi-bin/oplogs.cgi>
  - future: from within the AAT

# Archive Access Tool (AAT)

## *Array Operator logs*

### Post observations: obtaining your data

(2) Operator logs also available online:

- currently: <http://www.vla.nrao.edu/cgi-bin/oplogs.cgi>
- future: from within the AAT

The array operator logs are being merged with the new e2e archive system, this lookup tool has been provided as a stopgap measure to tide us over until the work is done. The logs here are from October 2003 onwards, older logs can be found using the previous tool, [here](#).

To use this tool, select the range of dates you wish to see logs for and hit the 'Show Logs' button. By default it will display logs for the last week.

Start Year  Month  Day

Stop Year  Month  Day

[s](#) | [Careers](#) | [Directories](#) | [Site Map](#) | [Help](#) | [Policies](#) | [Diversity](#) | [Search](#)

Date	Time	Code	File
2022-10-10	23:37	STARTUP	<a href="#">pdf</a>
2022-10-10	17:12	SOFTWARE	<a href="#">pdf</a>
2022-10-10	16:36	TCAL0003	<a href="#">pdf</a>
2022-10-10	14:26	22B-034	<a href="#">pdf</a>
2022-10-10	13:46	TPOL0003	<a href="#">pdf</a>
2022-10-10	13:23	THIG0007	<a href="#">pdf</a>
2022-10-10	11:08	22B-272	<a href="#">pdf</a>
2022-10-10	08:02	22B-157	<a href="#">pdf</a>
2022-10-10	03:25	20A-346	<a href="#">pdf</a>
2022-10-09	22:41	22B-046	<a href="#">pdf</a>

# Archive Access Tool (AAT)

## Array Operator log - example

### VLA OBSERVING LOG

2022-10-10\_1426\_22B-034

Observing Date: 10-Oct-2022  
 Configuration: C  
 Decommissioned: 20

<b>Project:</b>	22B-034	<b># Subarrays:</b>	1	<b>Observation Type:</b>	Science
<b>Observer(PI):</b>	Dr Marco Berton	<b>Band(s) Used:</b>	X Ka K Ku		
<b>SBID(s):</b>	42820540				
<b>EBID(s):</b>	42897307				
<b>Source File(s):</b>	22B-034_sb42820540_1_1				
<b>Observer E-mail:</b>	marco.berton@eso.org				
<b>Operator(s):</b>	Hannah Brower				

Time (UTC)	Dew Point (C)	Temp. (C)	Wind Speed & Direction (avg)	Bar. Pressure (mbars)	API RMS Phase (degs)	Remarks
10Oct 14:34:16	4.4	4.0	NE at 1.0 m/s	792.5	8.0	Sky cover 70%. Mixed clouds. Fog.
10Oct 15:01:54	5.2	5.1	S at 0.5 m/s	792.7	2.1	Sky cover 70%. Mixed clouds.
10Oct 16:02:40	7.2	9.0	SE at 0.5 m/s	793.0	3.4	Sky cover 80%. Cumuliform clouds.

Number of antennas used: 27

Start Time	End Time	Comments/Outages	Form #	#Ants	Down Time (in minutes)
10Oct 14:26:48		Starting project 22B-034.			
10Oct 14:26:48		The band(s) used is(are): X Ka K Ku.			
10Oct 14:34:04		On source J1007-0207 with all available antennas.			
10Oct 14:26:48		Antenna(s):1,2,3,4,7,8,12,13,14,15,18,19,21,24,26			
		have recently updated baseline parameters to correct for errors resulting from their recent relocation. Please check for any significant errors and submit them to the NRAO Helpdesk ( <a href="https://science.nrao.edu/observing/helpdesk">https://science.nrao.edu/observing/helpdesk</a> ) under the VLA Observing department.			
10Oct 14:26:48		To access your data from the NRAO archive visit:			

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# Archive Access Tool (AAT)

## Array Operator log - example

### VLA OBSERVING LOG

2022-10-10\_1426\_22B-034

Observing Date:	10-Oct-2022	Project:	22B-034	# Subarrays:	1	Observation Type:	Science
Configuration:	C	Observer(PI):	Dr Marco Berton	Band(s) Used:	X Ka K Ku		
Decommissioned:	20	SBID(s):	42820540				
		EBID(s):	42897307				
		Source File(s):	22B-034_sb42820540_1_1				
		Observer E-mail:	marco.berton@eso.org				
		Operator(s):	Hannah Brower				

Data loss and reason

Page 2

Time (UTC)	Dew Point (C)	Temp. (C)	Wind Speed & Direction (avg)	Bar. Pressure (mbars)	API RMS Phase (degs)	Remarks
10Oct 14:34:16	4.4	4.0	NE at 1.0 m/s	792.5	8.0	Sky cover 70%. Mixed clouds. Fog.
10Oct 15:01:54	5.2	5.1	S at 0.5 m/s	792.7	2.1	Sky cover 70%. Mixed clouds.
10Oct 16:02:40	7.2	9.0	SE at 0.5 m/s	793.0	3.4	Sky cover 80%. Cumuliform clouds.

Number of antennas used: 27

Start Time	End Time	Comments
10Oct 14:26:48		Starting project 22B-034.
10Oct 14:26:48		The band(s) used is(are): X Ka K Ku.
10Oct 14:34:04		On source J1007-0207 with all available antennas.
10Oct 14:26:48		Antenna(s): 1, 2, 3, 4, 7, 8, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27. All antennas have recently updated baseline parameters to complete their recent relocation. Please check for updates to the NRAO Helpdesk ( <a href="https://helpdesk.nrao.edu/">https://helpdesk.nrao.edu/</a> ) under the VLA Observing department.
10Oct 14:26:48		To access your data from the NRAO archive, please use the AAT ( <a href="https://archive.aat.nrao.edu/">https://archive.aat.nrao.edu/</a> ).

Start Time	End Time	Comments	Antenna(s)	Band	Down Time %	Total Down Time (min)
10Oct 14:26:48	10Oct 16:36:39	Antenna T303 and P302-1 low voltage, antenna parked as precaution.	10	LO-IF	1.00	129.85
10Oct 14:26:48	10Oct 16:36:39	Antenna(s) 23 (Data: Lost): X-band dead. Water Feed.	23	FRONT END	0.14	18.05
10Oct 14:26:48	10Oct 16:36:39	Antenna(s) 7 (Data: Lost): Both focus and rotation problems that will not clear. Antenna parked.	7	FOCUS/ROTATION	1.00	129.85
10Oct 14:26:48	10Oct 16:36:39	Antenna(s) 08 (Data: Lost): Bandswitch issue for Ku and K bands	08	LO-IF	0.25	32.46
<b>Project End Time</b>		<b>End of project 22B-034</b>	<b>Total Project Time (minutes x 27 ants.)</b>		<b>Down Time % of Total Time</b>	<b>Total Down Time</b>
10Oct 16:36:39		End of project 22B-034	3506.0		8.8%	310.2

Page 1

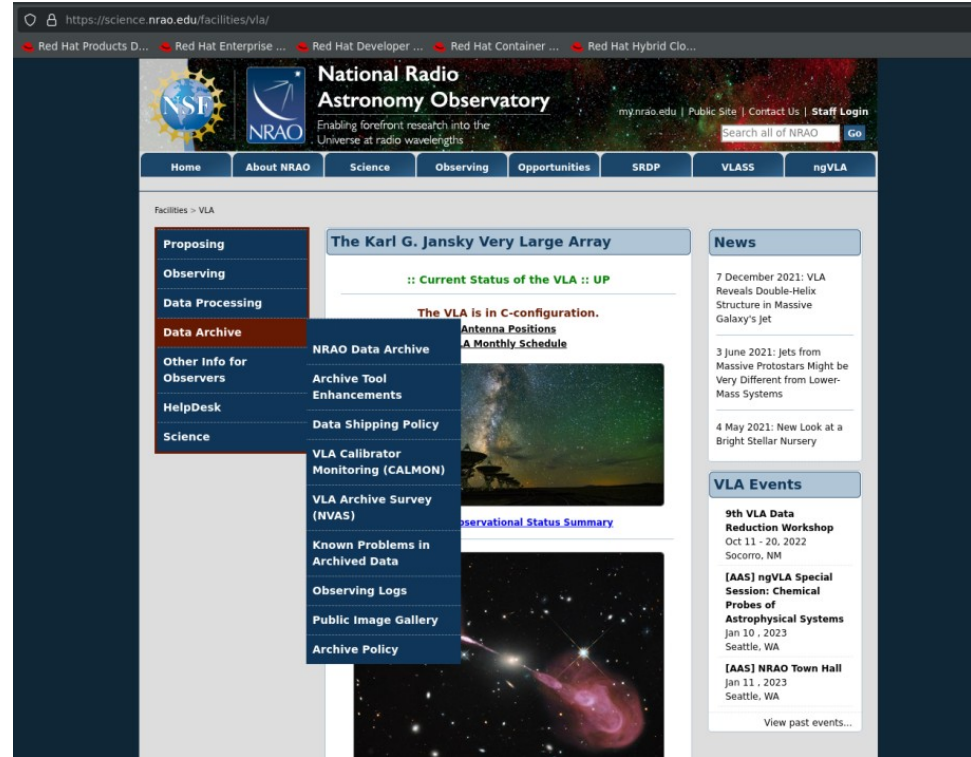
# Archive Access Tool (AAT)

**Obtaining data from the NRAO archive**

<https://data.nrao.edu/portal/>

# Archive Access Tool (AAT)

## *Information pages*



VLBA related information:

<https://science.nrao.edu/facilities/vlba/facilities/vlba/data-archive/index>

VLA related information:

<https://science.nrao.edu/facilities/vla/archive/index>



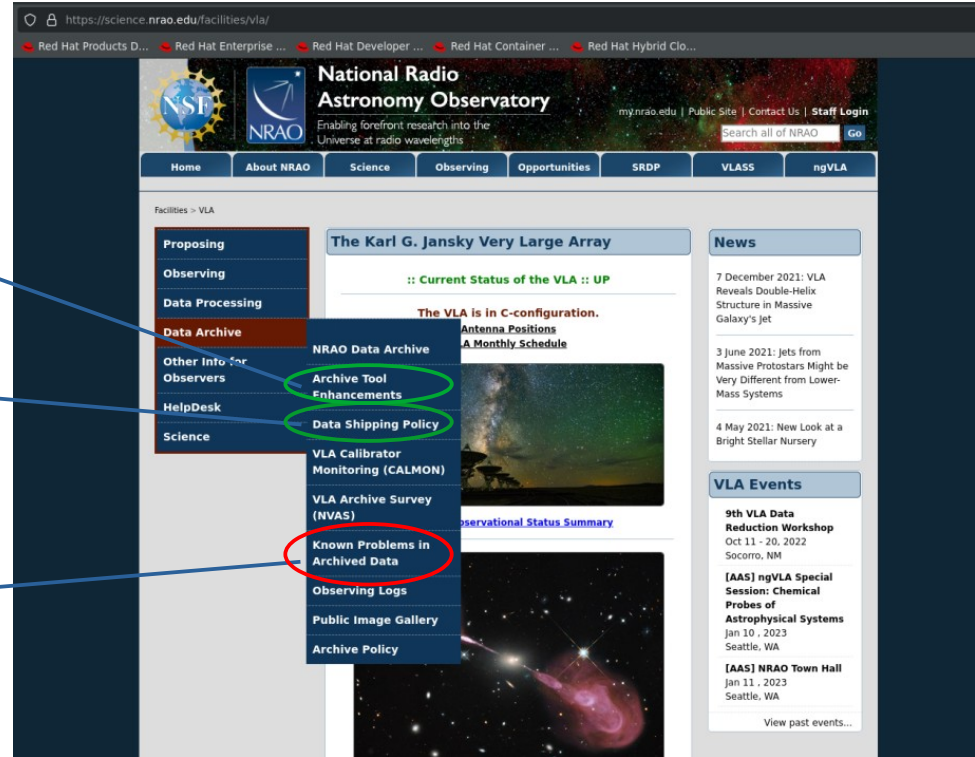
# Archive Access Tool (AAT)

## Information pages

Archive tool planned enhancements

Data can be shipped on hard disk (information)

Known data issues



VLBA related information:

<https://science.nrao.edu/facilities/vlba/facilities/vlba/data-archive/index>

VLA related information:

<https://science.nrao.edu/facilities/vla/archive/index>

# Archive Access Tool (AAT)

## Interface: Landing page

<https://data.nrao.edu/portal/>

National Radio Astronomy Observatory  
Enabling forefront research into the Universe at radio wavelengths

Archive Access Tool Back Log In About

Search

Show Search Inputs

View Projects View Observations View Images

Page 1 of 25788 Projects

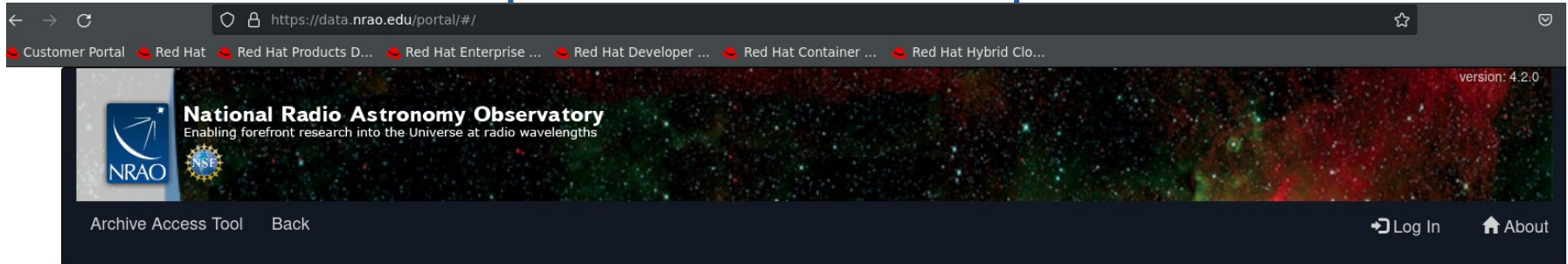
Project	Instrument	Title	First Obs	Last Obs	Execution Blocks	Lock
21B-286	EVLA	The North American Nanohertz Observatory for Gravitational Waves	2021-09-27 19:51	2022-10-11 01:34	95 execution blocks	🔒
Operations	EVLA	No title found	2009-10-14 21:18	2022-10-10 23:42	57157 execution blocks	
22B-174	EVLA	VLA as a High-Speed Camera to Probe Semi-Relativistic Electrons in Solar Flares	2022-10-03 18:09	2022-10-10 22:42	19 execution blocks	🔒
158_2	EVLA	No title found	2016-09-13 21:51	2022-10-10 20:57	653 execution blocks	
TRSR0001	EVLA	No title found	2010-05-22 03:57	2022-10-10 20:15	1467 execution blocks	
TPUL0001	EVLA	No title found	2011-11-29 19:14	2022-10-10 19:05	913 execution blocks	
TSUB0001	EVLA	No title found	2011-04-30 07:38	2022-10-10 17:12	848 execution blocks	
TCAL0003	EVLA	No title found	2010-10-22 03:08	2022-10-10 17:02	1396 execution blocks	
22B-034	EVLA	A blind survey of narrow-line Seyfert 1 galaxies - The quest for invisible jets	2022-10-10 14:26	2022-10-10 16:36	1 execution blocks	🔒

Data may be locked  
(if within proprietary period)

# Archive Access Tool (AAT)

## Interface: Landing page

<https://data.nrao.edu/portal/>



The list of data sets can be presented in various ways

▼ Show Search Inputs ▼

View Projects View Observations View Images

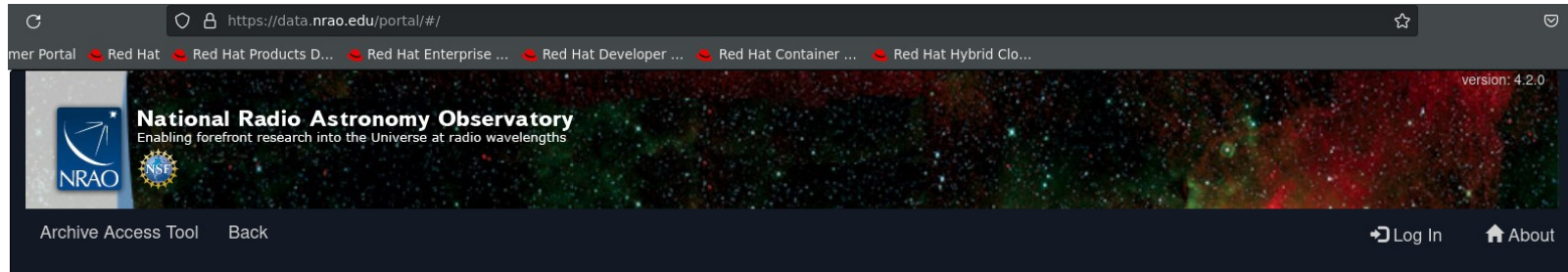
« Page 1 » Show 25 of 25788 Projects

Project	Instrument	Title	First Obs	Last Obs	Execution Blocks	Lock
+ 21B-286	EVLA	The North American Nanohertz Observatory for Gravitational Waves	2021-09-27 19:51	2022-10-11 01:34	95 execution blocks	🔒
+ Operations	EVLA	No title found	2009-10-14 21:18	2022-10-10 23:42	57157 execution blocks	
+ 22B-174	EVLA	VLA as a High-Speed Camera to Probe Semi-Relativistic Electrons in Solar Flares	2022-10-03 18:09	2022-10-10 22:42	19 execution blocks	🔒
+ 158_2	EVLA	No title found	2016-09-13 21:51	2022-10-10 20:57	653 execution blocks	
+ TRSR0001	EVLA	No title found	2010-05-22 03:57	2022-10-10 20:15	1467 execution blocks	
+ TPUL0001	EVLA	No title found	2011-11-29 19:14	2022-10-10 19:05	913 execution blocks	
+ TSub0001	EVLA	No title found	2011-04-30 07:38	2022-10-10 17:12	848 execution blocks	
+ TCAL0003	EVLA	No title found	2010-10-22 03:08	2022-10-10 17:02	1396 execution blocks	
+ 22B-034	EVLA	A blind survey of narrow-line Seyfert 1 galaxies - The quest for invisible jets	2022-10-10 14:26	2022-10-10 16:36	1 execution blocks	🔒

# Archive Access Tool (AAT)

*Data lists: per observation*

<https://data.nrao.edu/portal/>



The list of data sets can be presented in various ways

View Projects | **View Observations** | View Images

Page 1

Show 25 of 509881 Observations

0/100: selected (0/10.0 TB)

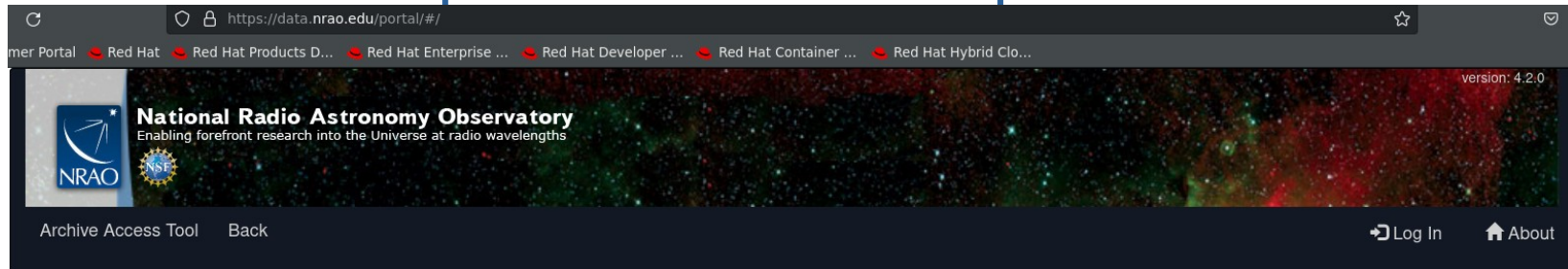
View Selection(s) | Clear All | Download

Archive File	Project	Instrument	Observation Start	Observation Stop	File Size	Array Config	Bands	Type	Cals	Scans
21B-286.sb41543679.eb42916406.59863.0074566088	21B-286	EVLA	2022-10-11 00:10:44	2022-10-11 01:34:26	111.284 GB	C	S	visibility		55
sysstartS.59862.9865046875	Operations	EVLA	2022-10-10 23:40:42	2022-10-10 23:42:29	155.859 MB	C	S	visibility		4
sysstartL.59862.98459487269	Operations	EVLA	2022-10-10 23:37:52	2022-10-10 23:40:27	226.341 MB	C	L	visibility		5
K3delay.59862.96867989583	Operations	EVLA	2022-10-10 23:15:02	2022-10-10 23:37:42	3.918 GB	C	K	visibility		43
sysstartC.59862.96729078704	Operations	EVLA	2022-10-10 23:13:02	2022-10-10 23:14:51	158.811 MB	C	C	visibility		4
sysstartX.59862.96254613426	Operations	EVLA	2022-10-10 23:06:13	2022-10-10 23:12:45	575.422 MB	C	X	visibility		13
22B-174_sb42877148_1_1_000.59862.93733528935	22B-174	EVLA	2022-10-10 22:29:49	2022-10-10 22:42:44	46.676 GB	C	C	visibility		9

# Archive Access Tool (AAT)

*Data lists: images*

<https://data.nrao.edu/portal/>



The list of data sets can be presented in various ways

Show Search Inputs

View Projects View Observations **View Images** (for VLA: future) Page 1 of 70898 Images

0/50: selected (0/10.0 TB)

View Selection(s) Clear All Download View In Carta

	Project	Longitude	Latitude	Band	Sp Resolution	Beam Axis Ratio	File Name
	VLASS1.1	0h2m28.328s	-36°30'0.000"	S	2.520	2.554	VLASS1.1.q1.T01t01.J000228-363000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
	VLASS1.1	0h2m30.256s	-37°30'0.000"	S	2.460	1.975	VLASS1.1.q1.T01t01.J000230-373000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
	VLASS1.1	0h2m32.282s	-38°30'0.000"	S	2.486	1.534	VLASS1.1.q1.T01t01.J000232-383000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
	VLASS1.1	0h2m34.411s	-39°30'0.000"	S	2.621	1.270	VLASS1.1.q1.T01t01.J000234-393000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
	VLASS1.1	0h7m24.984s	-36°30'0.000"	S	2.518	2.440	VLASS1.1.q1.T01t01.J000724-363000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
	VLASS1.1	0h7m30.769s	-37°30'0.000"	S	2.455	1.881	VLASS1.1.q1.T01t01.J000730-373000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
	VLASS1.1	0h7m36.847s	-38°30'0.000"	S	2.502	1.462	VLASS1.1.q1.T01t01.J000736-383000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits

# Archive Access Tool (AAT)

*Data lists: images*

<https://data.nrao.edu/portal/>

National Radio Astronomy Observatory  
Enabling forefront research into the Universe at radio wavelengths

Archive Access Tool Back Log In About

Search

Show Search Inputs

View Projects View Observations View Images

Page 1

Show 25 of 70898 Images

0/50: selected (0/10.0 TB)

View Selection(s) Clear All Download View In Carta

Project	Longitude	Latitude	Band	Sp Resolution	Beam Axis Ratio	File Name
VLASS1.1	0h2m28.328s	-36°30'0.000"	S	2.520	2.554	VLASS1.1.ql.T01t01.J000228-363000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
VLASS1.1	0h2m30.256s	-37°30'0.000"	S	2.460	1.975	VLASS1.1.ql.T01t01.J000230-373000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
VLASS1.1	0h2m32.282s	-38°30'0.000"	S	2.486	1.534	VLASS1.1.ql.T01t01.J000232-383000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
VLASS1.1	0h2m34.411s	-39°30'0.000"	S	2.621	1.270	VLASS1.1.ql.T01t01.J000234-393000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
VLASS1.1	0h7m24.984s	-36°30'0.000"	S	2.518	2.440	VLASS1.1.ql.T01t01.J000724-363000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
VLASS1.1	0h7m30.769s	-37°30'0.000"	S	2.455	1.881	VLASS1.1.ql.T01t01.J000730-373000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits
VLASS1.1	0h7m36.847s	-38°30'0.000"	S	2.502	1.462	VLASS1.1.ql.T01t01.J000736-383000.10.2048.v1.l.iter1.image.pbcor.tt0.subim.fits

The search inputs are hidden by default

# Archive Access Tool (AAT)

## *Archive search inputs*

Search

Clear

Show only CMS data

Show only data flagged public

# Archive Access Tool (AAT)

## Selecting data for download

TPUL0001 EVLA No title found 2011-11-29 19:14 2022-10-10 19:05 913 execution blocks

TSUB0001 EVLA No title found 2011-04-30 07:38 2022-10-10 17:12 848 execution blocks

TCAL0003 EVLA No title found 2010-10-22 03:08 2022-10-10 17:02 1396 execution blocks

Title: No title found  
Abstract: No abstract found  
PI: Emmanuel Momjian

Observations Images

Page 1 of 1396 Observations

1/100: selected (2.3 GB/10.0 TB)

View Selection(s) Clear All Download

Archive File	Project	Instrument	Observation Start	Observation Stop	File Size	Array Config	Bands	Type	Cals	Scans
<input checked="" type="checkbox"/> newstress.59862.692122754626	TCAL0003	EVLA	2022-10-10 16:36:40	2022-10-10 17:02:54	2.276 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility		18
<input type="checkbox"/> newstress_000.59858.314527361115	TCAL0003	EVLA	2022-10-06 07:32:55	2022-10-06 07:57:22	2.118 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility		18
<input type="checkbox"/> newstress.59855.68132069445	TCAL0003	EVLA	2022-10-03 16:21:06	2022-10-03 16:47:11	2.094 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility		18
<input type="checkbox"/> newstress.59852.093027372684	TCAL0003	EVLA	2022-09-30 02:13:58	2022-09-30 02:40:34	2.484 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility		18

Selected for download



data.nrao.edu/portal/#/

cts D... Red Hat Enterprise ... Red Hat Developer ... Red Hat Container ... Red Hat Hybrid Clo...

No title found				2010-05-22 03:57	2022-10-10 20:15				
No title found						4			2022-10-10 19:05
No title found						8			2022-10-10 17:12
No title found						8			2022-10-10 17:02

### Launch Workflow Task on: TCAL0003

**User Email (required):**

**Request Description:**

**Destination Directory:**  Specify directory (must be logged in)

**Create tar file:**  Return results as a tar file

**Choose download data format:**

- SDM tables only (metadata only)
- SDM-BDF dataset (metadata + visibilities)
- Basic Measurement Set (uncalibrated)
- Calibrated Measurement Set

**Apply telescope flags:**  Apply flags generated during observing

**CASA|Pipeline Version:**

Title: No tit  
Abstract: M  
PI: Emman

Observations

Show 25

Scans

18
18
18
18

**Bands**

C, K, Ka, Ku, L, Q, S, X	18
C, K, Ka, Ku, L, Q, S, X	18

9445	TCAL0003	EVLA	2022-10-03 16:21:06	2022-10-03 16:47:11	2.094 GB	C	C, K, Ka, Ku, L, Q, S, X
72684	TCAL0003	EVLA	2022-09-30	2022-09-30	2.484 GB	C	C, K, Ka, Ku, L, Q, S, X

# Archive Access Tool (AAT)

## Scan list

TPUL0001 EVLA No title found 2011-11-29 19:14 2022-10-10 19:05 913 execution blocks

TSUB0001 EVLA No title found 2011-04-30 07:38 2022-10-10 17:12 848 execution blocks

TCAL0003 EVLA No title found 2010-10-22 03:08 2022-10-10 17:02 1396 execution blocks

**Title:** No title found  
**Abstract:** No abstract found  
**PI:** Emmanuel Momjian

Observations Images

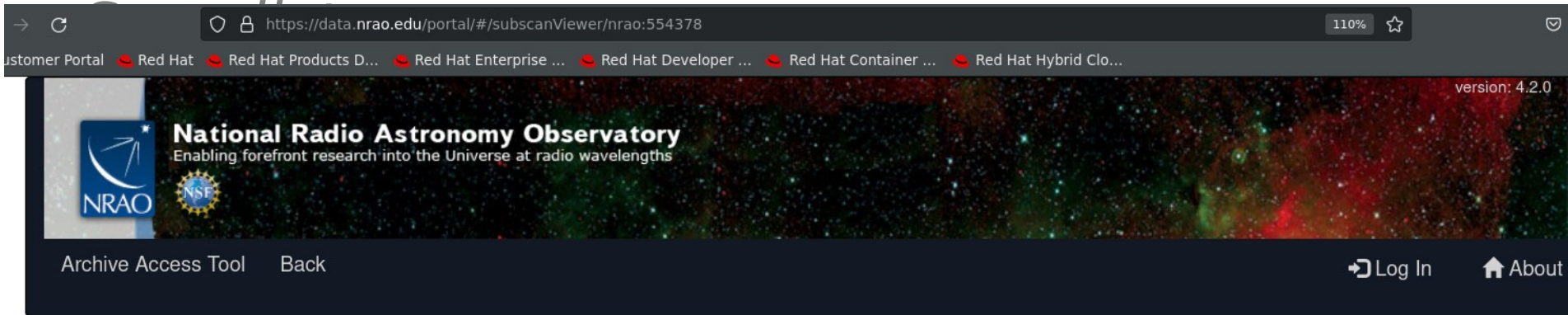
« < Page 1 > » Show 25 of 1396 Observations

1/100: selected (2.3 GB/10.0 TB)  
View Selection(s) Clear All Download

You can see scan list before download too

Archive File	Project	Instrument	Observation Start	Observation Stop	File Size	Array Config	Bands	Type	Scans
<input checked="" type="checkbox"/> newstress.59862.692122754626	TCAL0003	EVLA	2022-10-10 16:36:40	2022-10-10 17:02:54	2.276 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility	18
<input type="checkbox"/> newstress_000.59858.314527361115	TCAL0003	EVLA	2022-10-06 07:32:55	2022-10-06 07:57:22	2.118 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility	18
<input type="checkbox"/> newstress.59855.68132069445	TCAL0003	EVLA	2022-10-03 16:21:06	2022-10-03 16:47:11	2.094 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility	18
<input type="checkbox"/> newstress.59852.093027372684	TCAL0003	EVLA	2022-09-30 02:13:58	2022-09-30 02:40:34	2.484 GB	C	C, K, Ka, Ku, L, Q, S, X	visibility	18

# Archive Access Tool (AAT)



Observation ID: newstress.59862.692122754626

**Obs ID:** newstress.59862.692122754626  
**Project Code:** TCAL0003  
**Estimated Size:** 2.276 GB  
**Obs Release Date:** 2022-10-10T23:02:54.550Z  
**Data Product Type:** visibility  
**Receiver Band:** C, K, Ka, Ku, L, Q, S, X  
**Array Configuration:** C

[Request Data](#)

RA	Dec	Target Name	Min Frequency	Max Frequency	Scan Intent	Polarizations	Temporal Res	Scan Duration
11h53m12.499s	80°58'29.155"	1153+8058	8.3320000 GHz	8.3320000 GHz	["CALIBRATE_PHASE","CALIBRATE_AMPLI"]	["RR, RL, LR, LL"]	1.008	120 sec
11h53m12.499s	80°58'29.155"	1153+8058	8.3320000 GHz	8.3320000 GHz	["SYSTEM_CONFIGURATION"]	["RR, RL, LR, LL"]	1.023	45 sec
11h53m12.499s	80°58'29.155"	1153+8058	4.8320000 GHz	4.8320000 GHz	["CALIBRATE_PHASE","CALIBRATE_AMPLI"]	["RR, RL, LR, LL"]	1.008	120 sec
11h53m12.499s	80°58'29.155"	1153+8058	4.8320000 GHz	4.8320000 GHz	["SYSTEM_CONFIGURATION"]	["RR, RL, LR, LL"]	1.023	45 sec
11h53m12.499s	80°58'29.155"	1153+8058	3.0200000 GHz	3.0200000 GHz	["CALIBRATE_PHASE","CALIBRATE_AMPLI"]	["RR, RL, LR, LL"]	1.008	120 sec
11h53m12.499s	80°58'29.155"	1153+8058	1.3880000 GHz	1.3880000 GHz	["SYSTEM_CONFIGURATION"]	["RR, RL, LR, LL"]	1.004	149.55 sec
11h53m12.499s	80°58'29.155"	1153+8058	3.0200000 GHz	3.0200000 GHz	["SYSTEM_CONFIGURATION"]	["RR, RL, LR, LL"]	1.023	45 sec
11h53m12.499s	80°58'29.155"	1153+8058	1.3880000 GHz	1.3880000 GHz	["CALIBRATE_PHASE","CALIBRATE_AMPLI"]	["RR, RL, LR, LL"]	1.008	120 sec

# Archive Access Tool (AAT)

## VLBA segments

	↕ Project	↕ Instrument	Title	↕ First Obs	↕ Last Obs	
+	PPM2022	VLBA	No title found	2022-03-21 06:00	2022-09-27 11:53	5 execution blocks
+	UC003	VLBA	No title found	2021-09-01 05:00	2022-09-27 05:59	304 execution blocks
-	BS298	VLBA	Exploring Post-merger SMBH Evolution with the VLBA	2021-06-01 13:59	2022-09-27 02:38	116 execution blocks

**Title:** Exploring Post-merger SMBH Evolution with the VLBA

**Abstract:** We will continue a survey of six massive, major galaxy mergers, seeking signatures of the dual, binary, or recoiling SMBHs that should reside there. High-resolution VLBA observations of the remaining four targets will characterize the active emission history of the SMBHs and seek evidence of widely separated cores (at tens of parsec separations), and gravitational-wave searches with NANOGrav data will provide complementary searches for sub-parsec binary systems. With these two components, this program will represent a comprehensive probe of binary and active nucleus evolution within the final stages of major galaxy mergers, and will directly advance modern gravitational-wave astrophysics in the nanohertz gravitational waveband. Discoveries of dual, binary, coalescing, and recoiling SMBHs will raise our confidence in surveyable signatures that mark the presence of such systems, and will directly constrain the efficiency of binary evolution.

**PI:** Sarah Spolaor

**Legacy ID:** BS298

**Co-Authors:** Peter Breiding, Joseph Lazio, Caitlin V

VLBA is different to VLA due to its very nature, with often many correlations done in Socorro which are grouped into separate Segments

Segments Images

Page 1 of 53 Segments

	Segment	↕ Segment Start	↕ Segment Stop	File Size	Bands	Correlation Files
☑	BS298F2	2022-09-26 21:00	2022-09-27 02:38	8.320 GB	S, X, C	2
☑	BS298F1	2022-09-18 21:59	2022-09-19 03:46	8.263 GB	S, X, C	2
☑	BS298F0	2022-09-16 21:59	2022-09-17 03:38	8.352 GB	S, X, C	2
☑	BS298E9	2022-09-15 21:54	2022-09-16 01:16	6.474 GB	S, X, C	2
☑	BS298E8	2022-09-06 01:49	2022-09-06 04:45	6.626 GB	S, X, C	2
☑	BS298E6	2022-09-05 01:59	2022-09-05 04:47	6.258 GB	S, X, C	2

# Archive Access Tool (AAT)

## *Current status: known issues and planned work*

- SDM-BDF and MS of the same observations have to be requested separately.
- Only a single calibrated MS can be requested at any one time.
- Download requests are returned in a nested directory, with a sub-directory named exactly the same as what you asked for; you will have to go into that sub-directory to get to the requested file, e.g.

20B-099.sbXXX.ms/20B-099.sbXXX.ms/20B-099.sbXXX.ms

- Automated ways to get the data:
  - `wget` command → in place
  - ability to search and download through scripts → work in progress, currently: VO TAP access standard to search the metadata, some documentation here:

<https://science.nrao.edu/srdp/scripted-access-to-the-nrao-archive>

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<https://science.nrao.edu/observing/nrao-archive-tool-enhancements>

# Archive Access Tool (AAT)

## *Feedback*

If you have issues with the archive, please send us Helpdesk ticket under the **VLA/VLBAarchive** department.

We also do really welcome feedback on current data archive, including requests for features, for this please send us Helpdesk ticket under the **AATfeedback** department

Helpdesk

<https://help.nrao.edu/>



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