

The NRAO archive (with an emphasis on VLA data)



Gustaaf van Moorsel

Atacama Large Millimeter/submillimeter Array

Karl G. Jansky Very Large Array

Robert C. Byrd Green Bank Telescope

Very Long Baseline Array



Facts about the NRAO Archive

- Contains all VLA, VLBA, and GBT data
 - The ALMA archive is (still) separate
 - Data have a *proprietary period*: 12 months following the last observation
- At <https://archive.nrao.edu> we provide an interface for:
 - Browsing the archive
 - Retrieving Data
 - Internet
 - Hard disks
- Archive can be browsed by:
 - Anyone with a valid my.nrao.edu login
- Data can be retrieved by:
 - Before end of proprietary period: only those on project
 - After end of proprietary period: anyone with my.nrao.edu login





In order to unlock your proprietary data and have access to other archive tools, you must log in to your My.NRAO account.

NRAO Science Data Archive : Advanced Search Tool

Historical VLA, Jansky VLA, VLBA and GBT Data Products

Submit Query

Check Query

Clear Form

Output Control Parameters :

Choose Query Return Type :

- Download Archive Data Files
- VLA Observations Summary
- List of Observation Scans
- List of Projects

[Output Tbl Format](#) HTML

[Sort Order Column 1](#) Starttime Asc

[Max Output Tbl Rows](#) NO LIMIT

[Sort Order Column 2](#) Starttime Asc

General Search Parameters :

[Project Code](#)
GBT: AGBT12A_055
JVLA: 12A-256

[Project Session](#)

[Dates From](#)

[Observer Name](#)

[Archive File ID](#)
(partial strings allowed)

[To](#)
(2010-06-21 14:20:30)

Position Search :

[Target Name](#)

[Search Type](#) SIMBAD or NED [Min. Exposure](#) (secs)

[RA or Longitude](#)
(04h33m1.1s or 68.29d)

[DEC or Latitude](#)
(05d21'15.5" or 5.352d)

[Equinox](#) J2000

[Search Radius](#) 1.0'
(1d00'00" or 0.2d)

- OR - Check for automatic VLA field-of-view, freq. dependent.??



In order to unlock your proprietary data and have access to other archive tools, you must log in to your My.NRAO account.

NRAO Science Data Archive : Advanced Search Tool

Historical VLA, Jansky VLA, VLBA and GBT Data Products

Submit Query

Check Query

Clear Form

Output Control Parameters :

Choose Query Return Type :

- Download Archive Data Files
- VLA Observations Summary
- List of Observation Scans
- List of Projects

[Output Tbl Format](#) HTML

[Sort Order Column 1](#) Starttime Asc

[Max Output Tbl Rows](#) NO LIMIT

[Sort Order Column 2](#) Starttime Asc

General Search Parameters :

[Project Code](#)
GBT: AGBT12A_055
JVLA: 12A-256

[Project Session](#)

[Dates From](#)

[Observer Name](#)

[Archive File ID](#)
(partial strings allowed)

[To](#)
(2010-06-21 14:20:30)

Position Search :

[Target Name](#)

[Search Type](#) SIMBAD or NED [Min. Exposure](#) (secs)

[RA or Longitude](#)
(04h33m1.1s or 68.29d)

[DEC or Latitude](#)
(05d21'15.5" or 5.352d)

[Equinox](#) J2000

[Search Radius](#) 1.0'
(1d00'00" or 0.2d)

- OR - Check for automatic VLA field-of-view, freq. dependent.??

In order to unlock your proprietary data and have access to other archive tools, you must log in to your My.NRAO account.

NRAO Science Data Archive : Basic Search Tool

Historical VLA, Jansky VLA, VLBA and GBT Data Products

Instructions on how to download your data : [click here](#)

[Project \(Proposal\) Code](#)

The NRAO proposal or observing project id.

[Observer](#) :

The observer's name. Case sensitive, partial string searches best.

[Telescope](#) ▾

You may restrict the search to a single telescope.

[Observe Start Date](#) :

Format : yyyy-MMM-dd or yyyy-MMM-dd hh:mm:ss

[Observe Stop Date](#) :

Format : yyyy-MMM-dd or yyyy-MMM-dd hh:mm:ss

Query Control Parameters :

[Enter Locked Project Access Key](#)

Unique keywords may be used to unlock proprietary data from individual observing projects. Contact the [NRAO Data Analysts](#) for project access keys.

[Query Returns](#) : ▾

Select 'Download Archive Files' to proceed to the download page, the other options are for browsing.

Please direct feedback and/or questions concerning this page and its associated search engine to [NRAO DAS contact](#).

Version 5.9.3

In order to unlock your proprietary data and have access to other archive tools, you must log in to your My.NRAO account.

NRAO Science Data Archive : Basic Search Tool

Historical VLA, Jansky VLA, VLBA and GBT Data Products

Instructions on how to download your data : [click here](#)

[Project \(Proposal\) Code](#)

The NRAO proposal or observing project id.

[Observer](#) :

The observer's name. Case sensitive, partial string searches best.

[Telescope](#) ▾

You may restrict the search to a single telescope.

[Observe Start Date](#) :

Format : yyyy-MMM-dd or yyyy-MMM-dd hh:mm:ss

[Observe Stop Date](#) :

Format : yyyy-MMM-dd or yyyy-MMM-dd hh:mm:ss

Query Control Parameters :

[Enter Locked Project Access Key](#)

Unique keywords may be used to unlock proprietary data from individual observing projects. Contact the [NRAO Data Analysts](#) for project access keys.

[Query Returns](#) :

▾

Select 'Download Archive Files' to proceed to the download page, the other options are for browsing.

Please direct feedback and/or questions concerning this page and its associated search engine to [NRAO DAS contact](#).

Version 5.9.3

In order to unlock your proprietary data and have access to other archive tools, you must log in to your My.NRAO account.

NRAO Science Data Archive : Basic Search Tool

Historical VLA, Jansky VLA, VLBA and GBT Data Products

Instructions on how to download your data : [click here](#)

[Project \(Proposal\) Code](#)

The NRAO proposal or observing project id.

[Observer](#) :

The observer's name. Case sensitive, partial string searches best.

[Telescope](#)

You may restrict the search to a single telescope.

[Observe Start Date](#) :

Format : yyyy-MMM-dd or yyyy-MMM-dd hh:mm:ss

[Observe Stop Date](#) :

Format : yyyy-MMM-dd or yyyy-MMM-dd hh:mm:ss

Query Control Parameters :

[Enter Locked Project Access Key](#)

Unique keywords may be used to unlock proprietary data from individual observing projects. Contact the [NRAO Data Analysts](#) for project access keys.

[Query Returns](#) :

Select 'Download Archive Files' to proceed to the download page, the other options are for browsing.

Submit Query

Clear Form

Please direct feedback and/or questions concerning this page and its associated search engine to [NRAO DAS contact](#).

Version 5.9.3

Query results

- The archive tool returns a list of observations, each with:
 - Status (**locked** or **public**)
 - SDM-BDF set (listing of the sdm and bdf files)
 - Any data quality issues (**info**)
 - Scans (see next slide for example) and Logs
- It also allows Data Retrieval (Get my Data)

Get My Data

This button will start the process of retrieval for the selected archive datasets.

Archive File	Status	Project	Seg	Project Data Starts	Project Data Stops	File Size	Telescope: config:sub"	Bands	Format	Type	DQ	View Scans	Logs etc.
<input type="checkbox"/> 11A-291.sb4911125.eb4924302.55782.00136674769	locked	11A-291	x	11-Aug-09 00:02:01	11-Aug-09 01:01:45	42.46GB	EVLA:A:0	L	SDMset	raw	OK	Scans	Logs
<input type="checkbox"/> 11A-291.sb4911125.eb4944094.55784.99251239583	locked	11A-291	x	11-Aug-11 23:50:07	11-Aug-13 02:14:44	30.29GB	EVLA:A:0	L	SDMset	raw	OK	Scans	Logs
<input type="checkbox"/> 11A-291.sb4910900.eb4947827.55787.6933925	locked	11A-291	x	11-Aug-14 16:39:27	11-Aug-14 18:39:07	78.96GB	EVLA:A:0	L	SDMset	raw	info	Scans	Logs

Example of Scan listing

Project	Scan :sub	Source	Cal Code	Start Time	Stop Time	Sys	TOS (sec)	Intrvl (sec)	Scan Intent	Spect Win	Obs_Freq (MHz)	Bandw (MHz)	Polar	Spect chans	Corr Mode	Tele:config :sub:nants	RA(J2000)	DEC(J2000)	Archive File
11A-291	1:1	J1120+1420		11-Aug-09 00:02:01	11-Aug-09 00:02:54	UTC	53.5	1	OBS	CD_0:SW_0 CD_0:SW_1 CD_0:SW_2 CD_0:SW_3 CD_0:SW_4 CD_0:SW_5 CD_0:SW_6 CD_0:SW_7 CD_0:SW_8 CD_0:SW_9 CD_0:SW_10 CD_0:SW_11 CD_0:SW_12 CD_0:SW_13 CD_0:SW_14 CD_0:SW_15	998.000000 1062.000000 1126.000000 1190.000000 1254.000000 1318.000000 1382.000000 1446.000000 1506.000000 1570.000000 1634.000000 1698.000000 1762.000000 1826.000000 1890.000000 1954.000000	64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000	RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL	128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128	WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR	EVLA:A:1:27	11h20m27.807s	+14d20'54.99"	11A-291.sb4911125.eb4924302.55782.00136674769 uid____evla_bdf_1312848123251.bdf
11A-291	2:1	J1120+1420		11-Aug-09 00:02:54	11-Aug-09 00:03:54	UTC	59.8	1	CAL	CD_0:SW_0 CD_0:SW_1 CD_0:SW_2 CD_0:SW_3 CD_0:SW_4 CD_0:SW_5 CD_0:SW_6 CD_0:SW_7 CD_0:SW_8 CD_0:SW_9 CD_0:SW_10 CD_0:SW_11 CD_0:SW_12 CD_0:SW_13 CD_0:SW_14 CD_0:SW_15	998.000000 1062.000000 1126.000000 1190.000000 1254.000000 1318.000000 1382.000000 1446.000000 1506.000000 1570.000000 1634.000000 1698.000000 1762.000000 1826.000000 1890.000000 1954.000000	64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000	RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL	128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128	WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR	EVLA:A:1:27	11h20m27.807s	+14d20'54.99"	11A-291.sb4911125.eb4924302.55782.00136674769 uid____evla_bdf_1312848123257.bdf
11A-291	3:1	J1120+1420		11-Aug-09 00:03:54	11-Aug-09 00:05:24	UTC	89.8	1	CAL	CD_0:SW_0 CD_0:SW_1 CD_0:SW_2 CD_0:SW_3 CD_0:SW_4 CD_0:SW_5 CD_0:SW_6 CD_0:SW_7 CD_0:SW_8 CD_0:SW_9 CD_0:SW_10 CD_0:SW_11 CD_0:SW_12 CD_0:SW_13 CD_0:SW_14 CD_0:SW_15	998.000000 1062.000000 1126.000000 1190.000000 1254.000000 1318.000000 1382.000000 1446.000000 1506.000000 1570.000000 1634.000000 1698.000000 1762.000000 1826.000000 1890.000000 1954.000000	64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000 64.000	RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL RR,LL	128 128 128 128 128 128 128 128 128 128 128 128 128 128 128 128	WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR WIDR	EVLA:A:1:27	11h20m27.807s	+14d20'54.99"	11A-291.sb4911125.eb4924302.55782.00136674769 uid____evla_bdf_1312848174961.bdf

Data Download - format

- CASA Measurement set
- FITS file
- Science Data Model (restricted)
- MS and SDM files are directories: we recommend tar file

Expanded VLA datasets

Choose download data format : CASA MS
 AIPS FITS
 SDM-BDF dataset (all files)
 SDM tables only (no visibilities)

Create tar file : Create MS or SDM tar file

Apply telescope flags : Apply flags generated during observing

Choose online averaging for CASA MS or AIPS FITS : Spectral Averaging (chans)
 Time Averaging (secs)

Select scans for MS or AIPS FITS :

Auxiliary SDM Tables : Include verbatim SDM tables in MS

- We recommend applying flags generated during observing. You can unapply them in CASA if needed.

Data Download - averaging

Expanded VLA datasets

Choose download data format

CASA MS
 AIPS FITS
: SDM-BDF dataset (all files)
 SDM tables only (no visibilities)

Create tar file : Create MS or SDM tar file

Apply telescope flags : Apply flags generated during observing

Choose online averaging for
CASA MS or AIPS FITS : Spectral Averaging (chans)
 Time Averaging (secs)

Select scans for MS or AIPS
FITS :

Auxiliary SDM Tables : Include verbatim SDM tables in MS

- The tool allows the observer to average the data in time and/or in frequency.
- It also allows the selection of scans.

There are now two ways to deliver your archival NRAO data :

- by direct ftp as in the past
- or if your data set is very large, it may be shipped to you on a hard disk

You have selected (checked) these file sets for retrieval :

Archive File	Status	File Type	File Size
11A-291.sb4911125.eb4944094.55784.99251239583	public	MS	33.9248GB

Total file set size selected = 33.9248 GBytes

Estimated Download Time	Network Transfer Rate
1346.2 hours	Transfer rate 56Kb/sec - Dial up modem
75.4 hours	Transfer rate 1Mb/sec - low to mid-level broadband
7.5 hours	Transfer rate 10Mb/sec - high-level broadband
0.8 hours	Transfer rate 100Mb/sec - very high-level broadband

You have selected public domain data for downloading. Public domain data is eligible for hard disk shipping, but you must pay for the hard disk and the shipping costs.

Retrieve over internet

If you choose to download your data to the archive ftp area or a local destination in the DSOC (AOC), hit this button. This is the same data retrieval option that has been used in the past. You may then download your data directly over the internet.

Send on Hard Disks

If you choose to have your data shipped to you on a hard disk, the full policy and instructions for data shipment can be accessed here : [data shipping](#).

Planned:

- Improved integration between archive and my.nrao.edu
- Improved user interface
- Calibration pipeline which will do calibration for you and stores results in archive

