

# Nobeyama-45m / ASTE Science Data Archive (Radio Science Data Archive; Radio Archive)

<https://nobeyama-archive.nao.ac.jp/>

Home    Search Data    Download List    History    My Page    Help    Logout

## Nobeyama-45m / ASTE Science Data Archive

### Overview

This site, Nobeyama 45m and ASTE Science Data Archive, provides public science data obtained at the Nobeyama 45m radio telescope at Nagano, Japan and the ASTE telescope at Atacama, Chile.

[See more »](#)



### Misc Info

[Known Bug of NOSTAR and NEWSTAR](#)

[Known Bug of CASA](#)

### News

2024/12/10

This archive service will stop on 2024/12/14 9:00-14:00 UT (0:00-5:00 JST) because of disconnection of our network circuit. Sorry for inconvenience.

2024/10/23

This archive service will stop from 2024/11/8 to 2024/11/11 because of our planned electric outage.

### Archived Observation Range at Present

- NRO-45m:
  - NOSTAR or NEWSTAR: 2013-07-16 to 2024-08-20
  - MS2: 2017-09-29 to 2023-04-28
  - FITS: 2017-09-29 to 2023-04-28
- ASTE:
  - NOSTAR or NEWSTAR: 2019-06-18 to 2019-09-27

### Data Policy

- The data distributed by this site is open to the public 18 months after the observation for the

### To use all functions

User ID:

nishimura

Password

.....

Login

You can search public data but cannot download them if you do not have user account.

[Sign Up](#), if you do not have user account yet.

[Reset Password](#), if you forgot your password.

To delete your account: See [Help page](#).

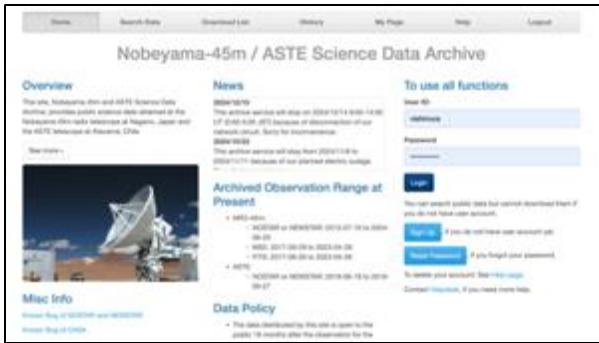
Contact [Helpdesk](#), if you need more help.

Tetsuhiro MINAMIDANI  
(ALMA/ASTE)

A. Nishimura (NRO)  
G. Kosugi (ALMA/ADC)  
A. Yoshino (ALMA)  
K. Yamashita (MIZ/ADC)  
M. Shizugami (ALMA/ADC)  
E. Morita (ALMA/ADC)  
E. Ikeda (ALMA)

# Nobeyama-45m / ASTE Science Data Archive

- NRO45, ASTE
- since 2017-08-21



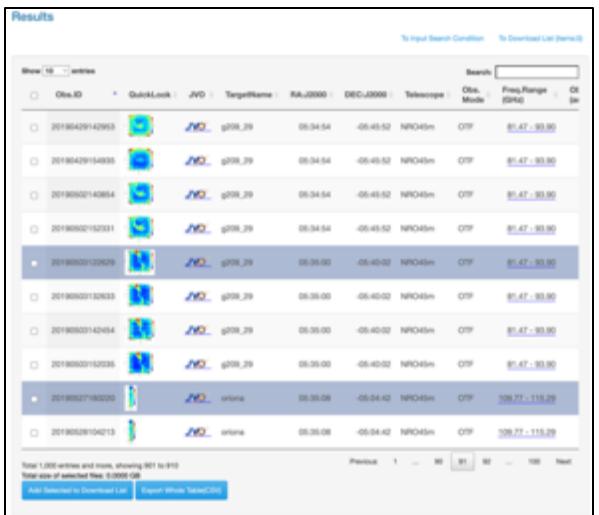
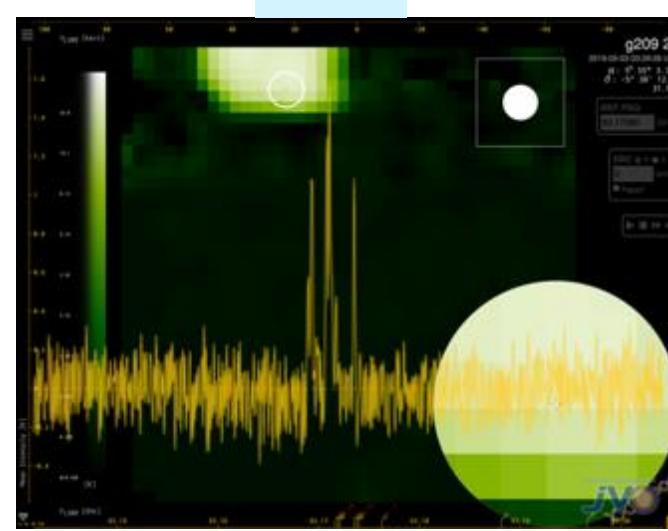
Nobeyama-45m / ASTE Science Data Archive

Overview

Archived Observation Range at Present

Misc Info

Data Policy



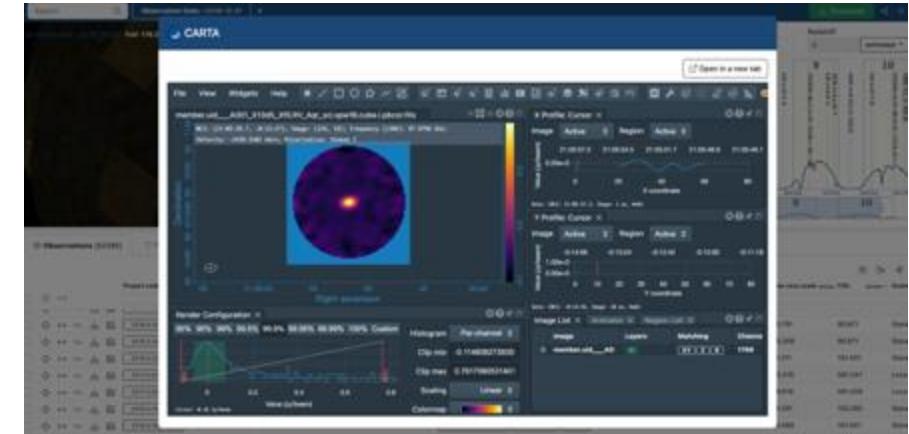
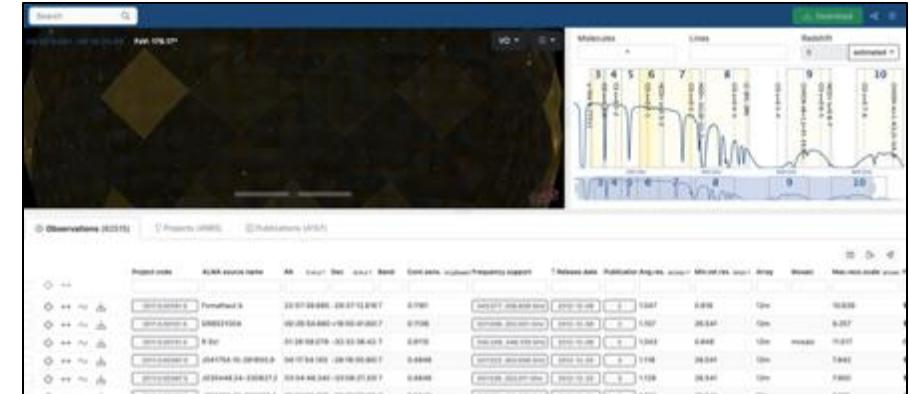
Results

Obs.ID	QuickLook	JVO	TargetName	RA-J2000	DEC-J2000	Telescope	Obs.Mode	Freq.Range
20180429142953			g208_29	05:34:54	-05:45:52	NRO45m	OTF	81.47 - 93.90
20180429154035			g208_29	05:34:54	-05:45:52	NRO45m	OTF	81.47 - 93.90
20180501140844			g208_29	05:34:54	-05:45:52	NRO45m	OTF	81.47 - 93.90
20180501152331			g208_29	05:34:54	-05:45:52	NRO45m	OTF	81.47 - 93.90
20180501123029			g208_29	05:35:00	-05:40:02	NRO45m	OTF	81.47 - 93.90
20180501123033			g208_29	05:35:00	-05:40:02	NRO45m	OTF	81.47 - 93.90
20180501124044			g208_29	05:35:00	-05:40:02	NRO45m	OTF	81.47 - 93.90
20180501125036			g208_29	05:35:00	-05:40:02	NRO45m	OTF	81.47 - 93.90
20180521160220			orion	05:35:00	-05:44:42	NRO45m	OTF	108.77 - 115.29
20180528104213			orion	05:35:00	-05:44:42	NRO45m	OTF	108.77 - 115.29

Total 1,000 entries and more, showing 901 to 910  
Total size of selected files: 0.0006 GB

Autoselect to Download List Export Whole Table CSV

# ALMA Science Archive



# How to Find Data

3

## ALMA

→ ALMA Science Archive

<https://almascience.nao.ac.jp/>

→ JVO - ALMA FITS Archive

<https://jvo.nao.ac.jp/portal/alma/archive.do>

## NRO Legacy Projects

- FUGIN, COMING, Star Formation

→ JVO

<https://jvo.nao.ac.jp/portal/nobeyama/>

## NRO 45m • ASTE

→ Nobeyama-45m/ASTE Science Data Archive

<https://nobeyama-archive.nao.ac.jp/>

## Functions

- Search
- Download Data
  - FITS, MS2, nostar, newstar
- Link to JVO (only FITS data, 2017 - 2023)
- Public after proprietary period

## Archived Data

- NRO 45m
  - 2013.7.16 -
- ASTE
  - 2019.6.18 -

# Statistics

Data	<p>Size : 81.1 TB、 # of Data Sets : 135,374 (Pipeline Processing Rate: 5.0%)</p> <ul style="list-style-type: none"><li>• newstar: 0.2 TB, 47,337 set</li><li>• nostar: 12.6 TB, 14,224 set</li><li>• ms2: 12.6 TB, 6,690 set</li></ul> <p>Increasing 10-15 TB/year</p> <p>(This is greater than the amount of new observation data because we are also working on pipeline processing of past data and releasing the processed data)</p>
Downloads (/yr)	1,160 Files、 990 GB (Average of 2019-2024)
Location	Virtual Machine on an ADC Rental Server (135 TB) + Data Processing & Test Environment
Operation Expenses and FTE	ADC Rental Server Data Backup on AWS 0.8 FTE? (8 Staffs : ADC, NRO, ALMA)

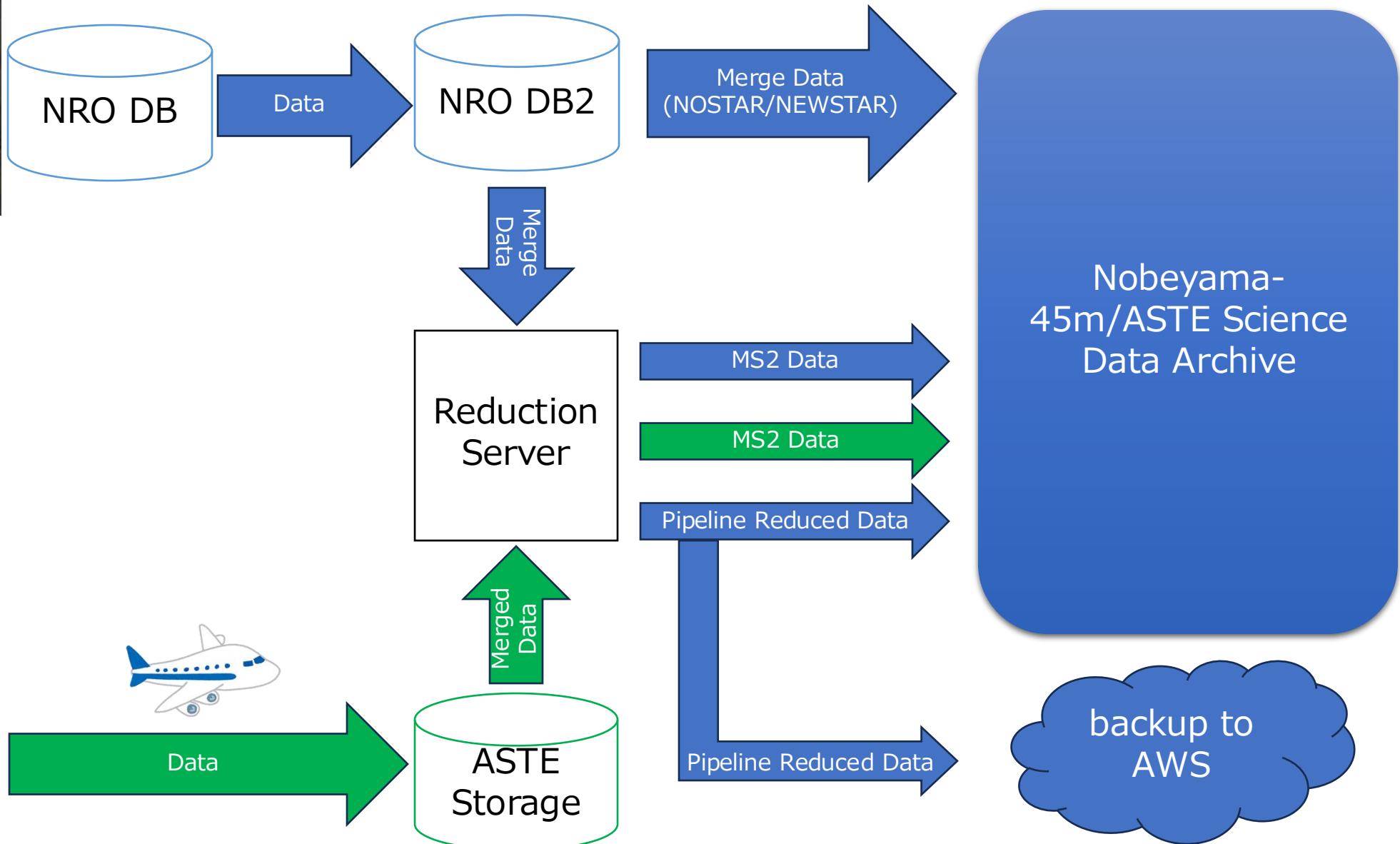
# Data Flow



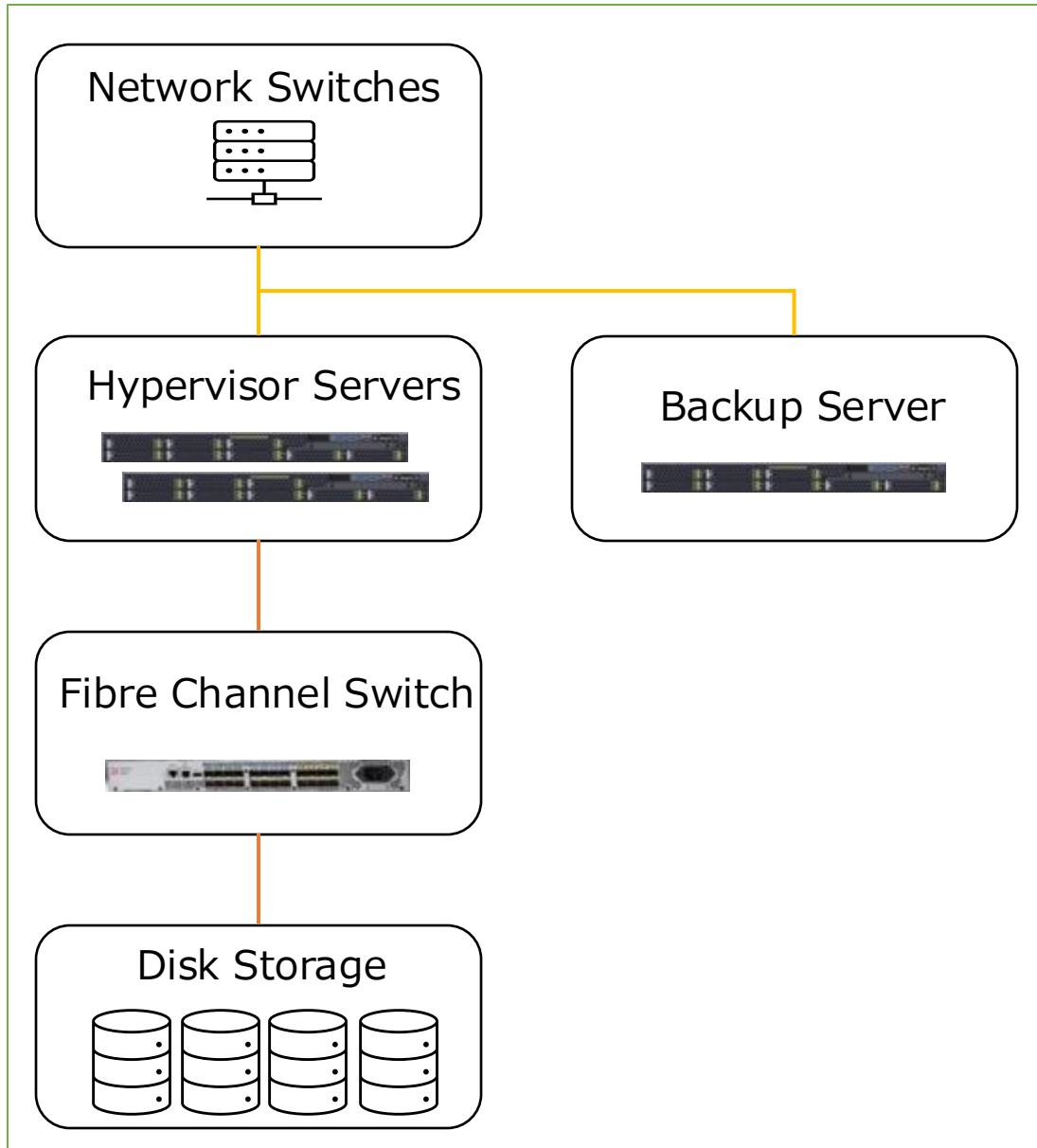
Nobeyama 45m



ASTE



# Common Virtualization Infrastructure in ADC



Several archive-related systems and components are consolidated into a Common Virtualization Infrastructure in ADC rental system.

Nobeyama-45m/ASTE Science Data Archive is operated on the Virtualization Infrastructure.

Specification:  
Allocated Disk Space: 135 TB

# Nobeyama-45m / ASTE Science Data Archive (Top)

<https://nobeyama-archive.nao.ac.jp/>

Home

Search Data

Download List

History

My Page

Help

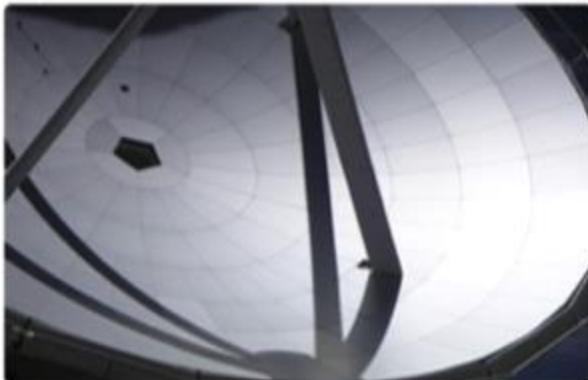
Logout

## Nobeyama-45m / ASTE Science Data Archive

### Overview

This site, Nobeyama 45m and ASTE Science Data Archive, provides public science data obtained at the Nobeyama 45m radio telescope at Nagano, Japan and the ASTE telescope at Atacama, Chile.

[See more »](#)



### News

2024/12/10

This archive service will stop on 2024/12/14 9:00-14:00 UT (0:00-5:00 JST) because of disconnection of our network circuit. Sorry for inconvenience.

2024/10/23

This archive service will stop from 2024/11/8 to 2024/11/11 because of our planned electric outage.

### Archived Observation Range at Present

- NRO-45m:
  - NOSTAR or NEWSTAR: 2013-07-16 to 2024-08-20
  - MS2: 2017-09-29 to 2023-04-28
  - FITS: 2017-09-29 to 2023-04-28
- ASTE:
  - NOSTAR or NEWSTAR: 2019-06-18 to 2019-09-27

### Misc Info

[Known Bug of NOSTAR and NEWSTAR](#)

[Known Bug of CASA](#)

[Note of NRO Data](#)

[Quality of NRO Data](#)

### Data Policy

- The data distributed by this site is open to the public 18 months after the observation for the Nobeyama open use (-2022 May) and the ASTE open use, and three years after the observation for the Nobeyama charged telescope time (2022)

# Nobeyama-45m / ASTE Science Data Archive (Search)

Home    Search Data    Download List    History    My Page    Help    Logout

## Nobeyama-45m / ASTE Science Data Archive

**Input Search Condition**   (Red Items: Mandatory / The Others: Optional)

**Data Status:**  
 Public Data     Only My Observation Data (for PI)

**File Type:**  
 Reduced data (set of FITS and auxiliary files)  
 MS2 format  
 NOSTAR/NEWSTAR format

**Telescope + Spectrometer:**  
 Nobeyama45m     SAM45  
 ASTE     MAC     WHSF

**Object Type (Solar System or Non-Solar System):**  
[Non-Solar System] (Some objects are not opened to the public while PI's occupation term.)

**Search Area:**  
From Object Name:

**Center Position:**  
Coordinate System:   
Longitude/RA:   
(0~360[deg] or 0~24[hour])

**Latitude/DEC:**

**Observation Date Range (UTC):**  
From  To

**Frequency Range:**  
From  To   
GHz    GHz  
Fill above range by Line:  
with Recession Velocity:  km/s  
with Extension:  GHz

or by Receiver:

**Resolution Range:**  
 Frequency (kHz)     Velocity (km/s)  
From  To

**Observation Mode:**

**System Temperature (Tsys):**

# Nobeyama-45m / ASTE Science Data Archive (Search Results)

RESULTS

To Input Search Condition To Download List (items: 0)

Show 10 entries

Search:

<input type="checkbox"/>	Obs.ID	QuickLook	JVO	TargetName	RA:J2000	DEC:J2000	Telescope	Obs. Mode	Freq.Range (GHz)	Obj (arc)
<input type="checkbox"/>	20171009014927			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171009015940			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171009025258			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171009034054			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>42.76 - 43.18</u>	
<input type="checkbox"/>	20171009035512			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171009044331			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171009053056			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>42.76 - 43.18</u>	
<input type="checkbox"/>	20171009053911			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171009062405			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>	
<input type="checkbox"/>	20171013231702			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>42.76 - 43.18</u>	

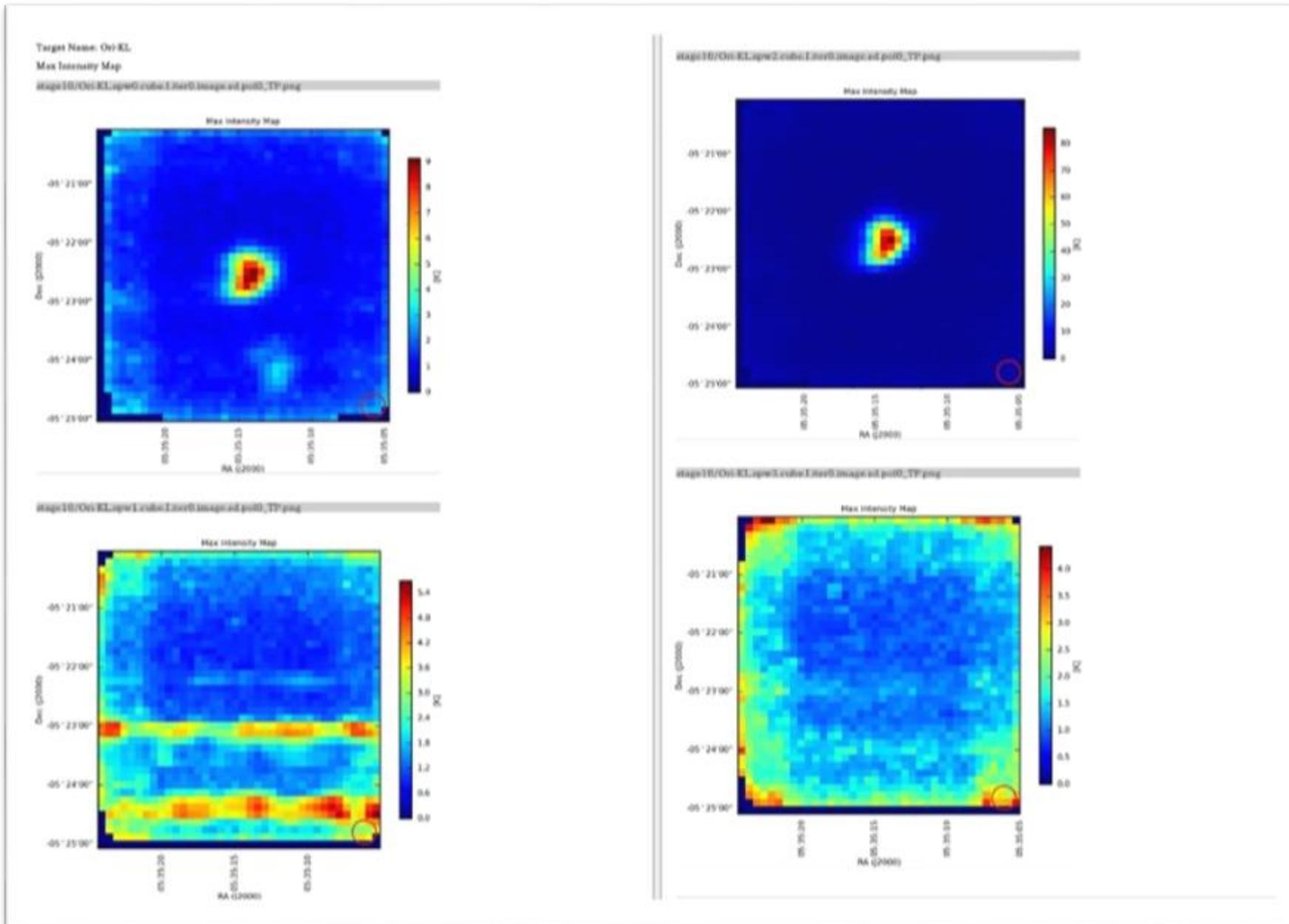
Total 252 entries, showing 191 to 200  
Total size of selected files: 0.0000 GB

Previous 1 ... 19 20 21 ... 26 Next

Add Selected to Download List Export Whole Table(CSV)

- MS2 and FITS format data are opened to the public since 2021-04-12.
- QuickLook are made from CASA/Pipeline processing to show quality of FITS data.

# Nobeyama-45m / ASTE Science Data Archive (Pipeline Summary 1)



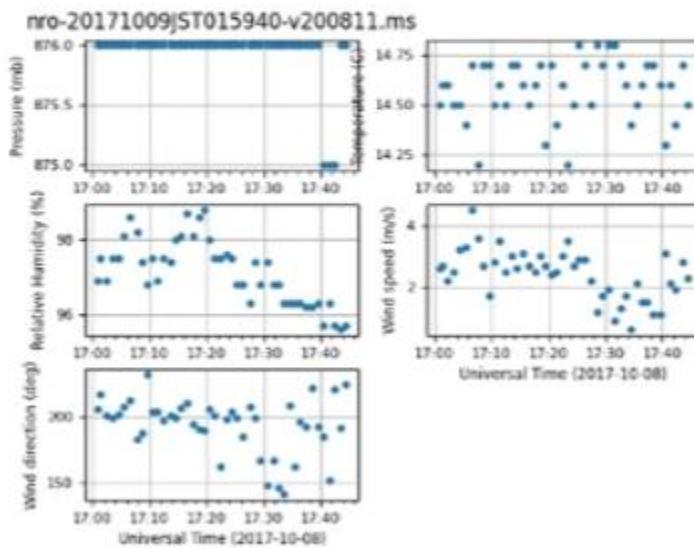
# Nobeyama-45m / ASTE Science Data Archive (Pipeline Summary 2)



# Nobeyama-45m / ASTE Science Data Archive (Pipeline Summary 3)

## Weather Plot

session/default/nro-20171009JST015940-v200811.ms/weather.png



## Overview

### Observation Overview

Project: casf7/spe  
Principal Investigator: casf7  
Observation Start: 2017-10-08 17:00:49 UTC  
Observation End: 2017-10-08 17:46:32 UTC

### Pipeline Summary

Pipeline Version: 2020.1.0.36  
CASA Version: 6.1.1.10 (environment)  
Pipeline Start: 2021-07-09 10:43:10 UTC  
Execution Duration: 1:14:56

### Observation Summary

Measurement Set	Num Receivers	Antennas	Time (UTC)		Baseline Length						
			Start	End	On Target	Min	Max	RMS	Size		
<b>Scheduling Block ID: N/A</b>											
<b>Session: default</b>											
nro-20171009JST015940-v200811.ms (2-1.html)	Unknown	4	2017-10-08 17:00:49	2017-10-08 17:46:32	0.0/50	0.0	0.0	1.2	2020/08/11-00:11:19		

Nobeyama-45m / ASTE Science Data Archive (Search Results)

Link to JVO are added  
since 2024-09-04.

Search: <input type="text"/>									
<input type="checkbox"/>	Obs.ID	QuickLook	JVO	TargetName	RA:J2000	DEC:J2000	Telescope		
<input type="checkbox"/>	20171009014927			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171009015940			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171009025258			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171009034054			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>42.76 - 43.18</u>
<input type="checkbox"/>	20171009035512			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171009044331			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171009053056			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>42.76 - 43.18</u>
<input type="checkbox"/>	20171009053911			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171009062405			Ori-KL	05:35:15	-05:22:30	NRO45m	OTF	<u>84.98 - 86.91</u>
<input type="checkbox"/>	20171013231702			Ori-KL	05:35:15	-05:22:30	NRO45m	PSW	<u>42.76 - 43.18</u>

Total 252 entries, showing 191 to 200

Total size of selected files: 0.0000 GB

Add Selected to Download List

[Export Whole Table\(CSV\)](#)

# JVO

**NRO FITS Archive**

**Note:**  
This page provides FITS images of open-use observation data by accepted proposals, obtained at the Nobeyama 45m radio telescope of Nagano, Japan. The FITS images provided at this site are identical to the Nobeyama 45m data available at the Nobeyama 45m / ASTE Science Data Archive, where you can obtain complete data set including beam images, weight images, calibration tables, web-log files, and so on.  
For notes on data usage please see the help page, the Error report, the Quality indicator, and the Contents of reduced data at Nobeyama 45m / ASTE Science Data Archive. You should check QuickLook file (for each Dataset ID), which is reorganized from file in the reduced data, to see the quality.

**Acknowledgement:**  
When you publish an academic paper using the data obtained with the 45-m telescope of the Nobeyama Radio Observatory, we appreciate if you include one of the following sentences in the main text, in the acknowledgement, or in the footnote in your paper:  
"Used on observations at the Nobeyama Radio Observatory (NRO)" (in the main text),  
"Nobeyama Radio Observatory is a branch of the National Astronomical Observatory of Japan, National Institutes of Natural Sciences." (in the footnote),  
"The 45-m radio telescope is operated by the Nobeyama Radio Observatory, a branch of the National Astronomical Observatory of Japan." (in the footnote or the acknowledgement).  
Authors are also asked to cite the appropriate instrumentation papers following the this page.  
For you retrieved the data at JVO portal and when you find it helpful for your research work, the following acknowledgement would be appreciated:  
Part of the data were retrieved from the JVO portal ([http://jvo.nao.ac.jp/portal/](http://jvo.nao.ac.jp/)) operated by ADC/NAOJ."

**Dataset List** [Download](#) [Change Log](#)

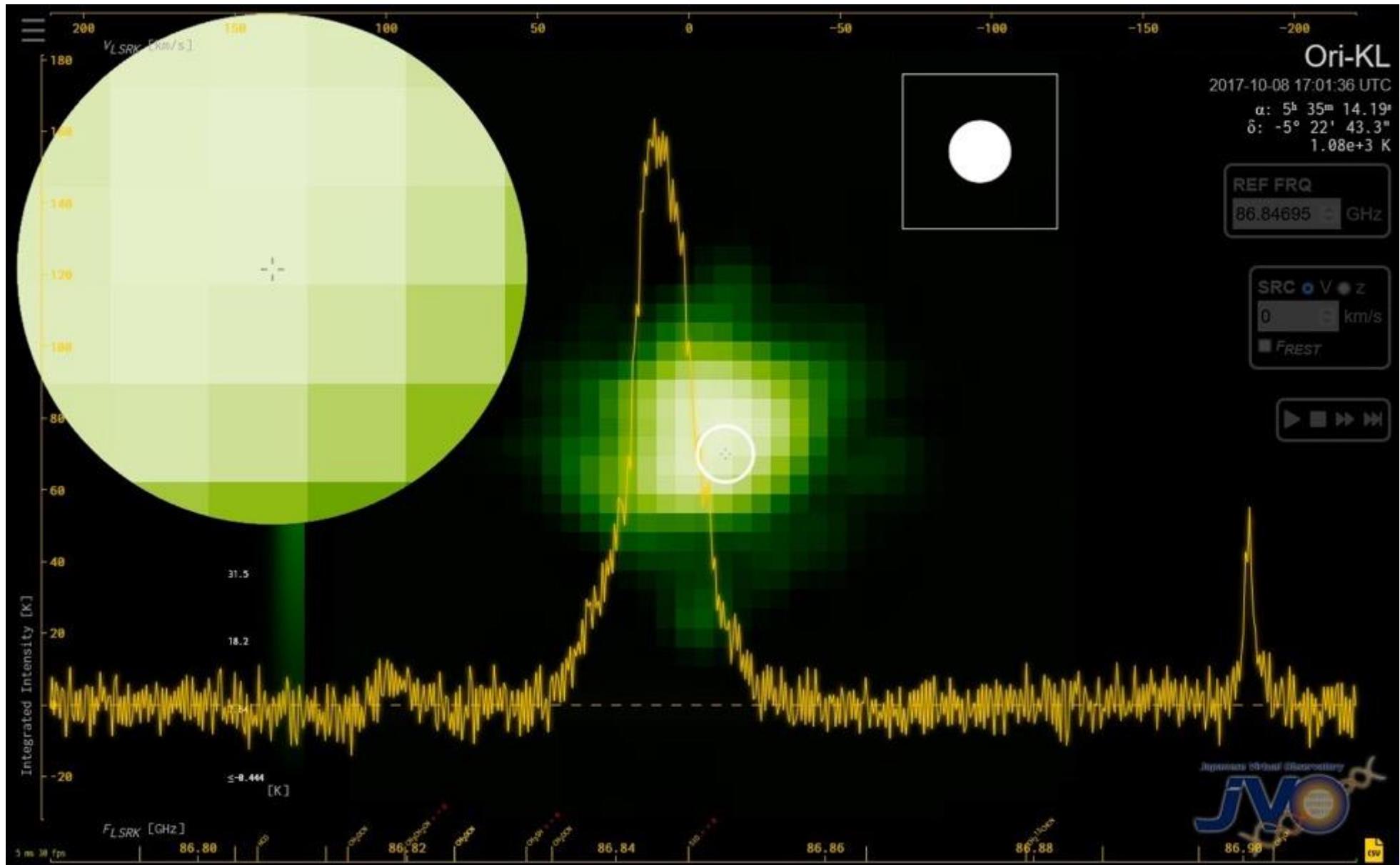
To download the data: Click the 'download' button at the row of data you want to download. By clicking the 'download' button at the header of the table, you can download all the checked data.  
To quick-look at the data: Click the 'QuickLook' button at the row of data you want to look at.  
To filter the data: Enter filtering condition at the header of the corresponding column. Some of the text field accept a regular expression.  
How to use regular expressions:  
• 'abc' -- matches any string which contains 'abc'.  
• '...' -- matches any length of characters.  
• '^a' -- matches any string which starts with 'a'.  
• 'a\$' -- matches any string which ends with 'a'.  
• More information about the syntax of regular expression is found in the help page.

Number of data : 5  
Order by : dataset\_id asc  
Condition : dataset\_id ~^Nro-20171009JST015940-v20081ms\_v200906-pipe

[Update](#) [Clear](#) Number of data per page: 20

#	Dataset ID ? Nro-20171009JST015940-v20081ms_v200906-pipe	Data ID ? NROA0003657	Object ? OH-KL	<input type="checkbox"/> all	<a href="#">Download</a> FITS WebQL VO Search QL by PDF	<a href="#">QL Image</a>	<a href="#">QL spect</a>	Maximum intensity map of this dataset	SPW ? spec0	Data Type ? CUBE I	Coords (Ra Dec) ? center: radio: Galactic, or object name radius: radius unit:	Galactic Coords center: radio: Galactic, or object name radius: radius unit:
1	Nro-20171009JST015940-v20081ms_v200906-pipe	NROA0003657	OH-KL	<input type="checkbox"/>	<a href="#">Download</a> FITS WebQL VO Search QL by PDF				spec0	CUBE I	05h35m14 -05d22m33 83.811 -5.376	200d50m38 -19d 208.994 -19
2	Nro-20171009JST015940-v20081ms_v200906-pipe	NROA0003658	OH-KL	<input type="checkbox"/>	<a href="#">Download</a> FITS WebQL VO Search QL by PDF				spec0	CUBE XXXY	05h35m14 -05d22m33 83.811 -5.376	200d50m38 -19d 208.994 -19
3	Nro-20171009JST015940-v20081ms_v200906-pipe	NROA0003659	OH-KL	<input type="checkbox"/>	<a href="#">Download</a> FITS WebQL VO Search QL by PDF				spec1	CUBE I	05h35m14 -05d22m33 83.811 -5.376	200d50m38 -19d 208.994 -19

# JVO (FITS WebQL)



- Registration of data newly observed by the Nobeyama 45-m Telescope (regular activity)
- Download function for Nobeyama 45-m Telescope observation log (from 2013 to present) is being implementing. (coming soon)
- Updating for supporting ASTE New Spectrometer (XFFTS) & MS2 Format (on-going)
  - Heterodyne spectroscopic data from 2023 onwards
- Update of Helpdesk (in preparation)

# Summary & Prospects

## Messages to Users

- Please use and publish papers.
- Please feel free to contact us with any requests.

## Contact Points

- Questions, requests, etc.
  - Nobeyama45 Discord
  - E-mail to / Direct contact to A. Nishimura, T. Minamidani, and/or G. Kosugi

## Future Prospects

- Toward the "REAL" Radio Archive?, which includes VERA? Other radio telescopes operated by universities??
- Seamless data search among other archives??
- Your inputs are essential.

# History / Major Updates

- 2017-08-21
  - Opened as "Nobeyama Science Data Archive"
- 2019-07-26
  - Expanded into "Nobeyama-45m/ASTE Science Data Archive"
- 2021-04-12
  - Started releasing MS2 data and pipeline-processed calibrated products (FITS cube) for Nobeyama 45m.
- 2024-09-04
  - Added links to JVO site for reduced data (processed and calibrated FITS cubes) in the search result table.

# History / Major Updates

- 2017-08-21
  - Opened as "Nobeyama Science Data Archive"
- 2019-07-26
  - Expanded into "Nobeyama-45m/ASTE Science Data Archive"
- 2021-04-12
  - Started releasing MS2 data and pipeline-processed calibrated products (FITS cube) for Nobeyama 45m.
- 2024-09-04
  - Added links to JVO site for reduced data (processed and calibrated FITS cubes) in the search result table.

- **Data Reduction of Downloaded ASTE MS2 Data**
  - The Pipeline for Nobeyama may not be used without modifications at this moment, because data structure is different from that of Nobeyama 45-m.
  - Pipeline for ASTE is not available yet, but some support for reduction can be provided from the ASTE Team.
  - Contribution from/collaboration with users is appreciated very much.
- **Available archived ASTE Data**
  - Since 2019-06-19.
  - The old data before 2019-06-19 are not available on the Archive.