

# EVLA Scientific Commissioning



C. Chandler, J. McMullin

Atacama Large Millimeter/submillimeter Array  
Expanded Very Large Array  
Robert C. Byrd Green Bank Telescope  
Very Long Baseline Array



## Commissioning Goal

- To bring the EVLA into full operation at the end of 2012 offering the maximum possible range of capabilities to the user community given our commissioning resources
- How to do this?
- Structured approach to provide:
  - *Accountability* (to the NSF, to review committees, and to colleagues)
  - *Clarity* so that participants are working toward common goals
  - *Milestones* so that we can assess objectively what we are able to offer to the community
- Good communication within the commissioning effort

## Commissioning Approach

- Test end-to-end operation of specified EVLA observing modes using a range of different targets
- Test reduction tools
- Provide feedback to operations
- Demonstrate the potential of these modes to a wide community
- Include the community through the RSRO program
  - Foster early scientific return
  - Offer users science data from a new mode of EVLA and involve them in prompt scientific exploitation
  - Maximize and optimize resources for the commissioning effort

## Commissioning Products

- Reports documenting and quantifying:
  - System performance
  - Exceptions
  - Recommendations for improvement
  - Test data
  - Performance vs. design requirements from the Project Book
- Operational procedures and documentation for operation of the EVLA as a science facility, including end-to-end data management

# Commissioning Tasks

- Commissioning tasks derived from “data flow view” of EVLA data:
  - OSRO commissioning
  - Observing with wide bandwidths
  - Scheduling heuristics
  - Data distribution
  - Flagging
  - External calibrations
  - Special calibrations
  - Self-calibration topics
  - Correlator/observing modes
  - Imaging topics
  - Data analysis
  - High performance computing
  - (Low frequency [ $<1$  GHz] bands)

## Commissioning Tasks

- Spreadsheet of commissioning tasks
  - [commissioning\\_20100208.xls](#)
- Dates derived from:
  - Receiver delivery dates
  - 3-bit sampler delivery
  - Prioritized list of correlator configurations and capabilities
- Aimed at obtaining a complete list while minimizing the duplication that would result from, e.g., a view derived from science-based use cases

## Commissioning Organization

- Group targets by technique and match to staff scientific interests and expertise
- Assign experienced NRAO/EVLA “lead” to each target
  - Roughly translates into “teams” working in the different areas comprising in-house and RSRO scientists
- Team lead responsibilities:
  - Define requirements (cf. Project Book Chapter 2)
  - Specify tests needed
  - Coordinate effort
  - Present status updates

## EVLA Commissioning Teams

Area	Team lead(s)	Other NRAO	RSRO
Sub-GHz frequencies	Owen	Cotton, Durand, Intema, Perley	Lazio
Low-frequencies	Momjian, Perley	Bhatnagar, Goss, Owen	Chomiuk, Heesen, Lazio, van Gorkom
Mid-frequencies	Dhawan	Frail, Momjian, Owen, Rupen	Lazio, Leroy, Heesen, Taylor
High-frequencies	Claussen, Sjouwerman	Carilli, Chandler, Marvil, Owen, Pannella, Strazzullo	Aravena, Brogan, Corder, Hunter, Leroy, Perez
Spectral lines	Goss, Ott	Carilli, Chandler, Dickman, Momjian, Sjouwerman, Wrobel	Aravena, Brogan, Chomiuk, Corder, Hunter, Linz, van Gorkom
Scheduling	Frail	Carilli, Claussen, Dhawan, Goss, Momjian, Perley, Owen, Sjouwerman, Wrobel	Heesen, Lazio, Leroy, Linz, Miller-Jones, Perez, van Gorkom



## EVLA Commissioning Teams

Area	Team lead(s)	Other NRAO	RSRO
Polarization	Myers	Bhatnagar, Cotton, Dhawan, Greisen, Kogan, Moellenbrock, Owen, Perley	Green, Heesen, Taylor
Rapid response	Frail	Rupen, Wrobel	Chomiuk
Pulsars	Briskin	Frail, Rupen, CASA developers	Deller
VLBA/VLBI compatibility	Briskin, Walker	Mioduszewski, Romney	Deller
Astrometry	Briskin	Dhawan, Fomalont, Mioduszewski, Rupen	
Mosaicing	Ott	Dickman, Golap, Goss	Chomiuk, Miller-Jones, Taylor
Planets	Butler	Hesman	
Solar	Perley, Butler	Bastian	

## EVLA Commissioning Teams

Area	Team lead(s)	Other NRAO	RSRO
OSRO tests	Van Moorsel	McMullin, Ott, Rupen	
Correlator	Rupen	Carilli, Chandler, Dhawan, Frail, Goss, Momjian, Ott, Sjouwerman, Wrobel	Aravena, Brogan, Chomiuk, Hunter, van Gorkom
Calibrator survey/ models/DB	Mioduszewski	Greisen, Hesman, Moellenbrock, Owen, Sjouwerman	
Demo science	Chandler	Butler, Claussen, Dickman, Greisen, Hesman, McMullin, Ott	Miller-Jones
Algorithms (imaging, self-cal, advanced data analysis, HPC)	Bhatnagar, Owen	Carilli, Chandler, Cotton, Golap, Greisen, Goss, Kogan, Marvil, Momjian, Perley, Rao, Robnett	All RSRO
Documentation	McMullin	All	Chomiuk, Greaves

## Commissioning Organization

- Minimize duplication of effort at the same time as preventing targets from falling through the cracks
- Move toward standardization and documentation of activities to improve:
  - New team member/RSRO integration and ramp up
  - Clear history of testing/results
  - Establish “accepted/recommended” paths for different observing modes, including observing scripts and reduction scripts for inclusion in user documentation and pipeline development

## Commissioning Organization

- For each commissioning task the lead should produce a minimum of the following:
  - One or more *goals* with a description of the required test(s), participant(s), timescale, and a definition of what it means for this goal to be complete
  - E.g.: polarization (thanks to Steve for this)
  - The level of detail is up to the lead to define
  - Negotiation on delivery dates for completion
  - Each target will be reviewed on a quarterly basis; decision on whether a target is complete will be made by lead

## Commissioning tasks beg. 2009 Q4-2010 Q1

- OSRO commissioning tests: van Moorsel
- OPT tests for primary frequencies (L/C/K/Ka/Q/VLA-X): Sjouwerman
- L/S/C observing methodology (incl. polcal for Stokes I); 8-bit samplers: Momjian
- L/C/K/Ka/Q complex gain stability: Perley
- L/C/K/Ka/Q bandpass stability: Perley
- Narrow-field, wide-band imaging of unconfused fields: Owen
- Identical sub-bands in correlator: Rupen
- Planetary observing (correlator/executor): Butler
- Planetary observing (OPT): Butler
- Reference pointing: Perley
- ToO scheduling heuristics: Frail
- Spectral line set-up and calibration procedures: Ott
- Narrow-field, wide-band imaging of confused fields: Owen
- K/Ka/Q observing methodology (incl. polcal for Stokes I); 8/3-bit samplers: Sjouwerman
- Archive functionality: Sjouwerman
- Data distribution via alternative media: van Moorsel
- L/C/K/Ka/Q observing recommendations documented: McMullin
- RM synthesis imaging: Owen

## Commissioning tasks beg. 2010 Q2 (planning needed Q1)

- Trading sub-bands for channels: Rupen
- Phased array for VLBI: Bricken
- Phased array for pulsars: Bricken
- L/C/K/Ka/Q delays/fringe fitting: Dhawan
- L/C/K/Ka/Q polarization calibration: Myers
- Calibrator survey: Mioduszewski
- X/Ku scheduling heuristics: Frail
- CASA multi-thread capability: Golap
- L/C/K/Ka/Q polarization stability: Myers
- VLBI observing set-up (SCHED/OPT): Walker
- Gain curves: Perley
- CASA cluster testing: Golap
- Imaging of  $\sim$ FWHM of primary beam: Owen
- Full field, narrow-band polarization imaging: Owen
- Pointing self-calibration: ARDG
- Flagging algorithm development: Owen
- L/C/K/Ka/Q flux calibrator models: Mioduszewski
- L/S/C flagging: Owen
- RFI excision/subtraction: Owen
- Flagging recommendations documented: McMullin

## Prioritization

- There is a lot to do! Already we are behind this “ideal” schedule due to time code and system integration issues with correlator
- Commissioning task list is already in an approximately prioritized order
- Work through list in this order
- Priorities
  - OSRO functionality for 2010A-2011A (affects the most users)
  - Commissioning for OSRO 2011B-2012B: 2 GHz BW (8-bit samplers); simple correlator set-ups (no recirculation); limited advanced modes (e.g., VLBI-compatibility; TBD)
    - Further discussion of this is warranted in the next couple of months
  - More advanced set-ups for RSRO projects

## Task Tracking and Documentation

- Commissioning tasks, RSRO projects, demonstration science
  - Organize using JIRA
    - Already in use and adequate for our needs
    - Provides transparency within the group, notification as broad or as restricted as needed; archive/history of activities and results
  - Two projects
    - ECSV: EVLA Commissioning and Science Verification
      - This provides the backbone/structure for the known observations that we will take to characterize the observatory and also enables open/idea-based investigations
    - RSRO: Resident Shared Risk Observing
      - This provides structure for the visiting scientists to demonstrate progress toward proposal fulfillment



## Task Tracking and Documentation

- Test datasets, procedures (acquisition, analysis)
  - Use NRAO Twiki
    - <https://staff.nrao.edu/wiki/bin/view/EVLA/EVLACommissioning>
    - maintain in a single location accessible to everyone, automatically archived; likely easier to search than e-mails
    - Discussion?
  - Post detailed descriptions of test data sets and archive addresses
  - Post procedures used, test results

# Task Tracking and Documentation

- Meetings
  - Monday mornings: report on status by team leads; discuss test observations for the week
  - Monthly EVLA Transition slot for in-depth review of selected targets
  - Monthly EVLA test meeting for presenting test results
  - Individual teams should probably meet weekly at times convenient for the team
  - Results from tests that might be useful for targets other than that for which the data were originally taken should be communicated to the relevant team lead and/or posted on the data wiki and/or included in the relevant JIRA ticket

## ECSV Project:

<https://bugs.aoc.nrao.edu/browse/ECSV>

- Draft Project plan based on the spreadsheet targets and quarter resolution deadlines; additional details added based on Rupen's OSRO testing plan; added Myers' Polarization calibration test plan as an example)
  - [http://www.alma.cl/aiv/EVLA\\_CSV.html](http://www.alma.cl/aiv/EVLA_CSV.html)
  - Gantt chart:  
[http://www.alma.cl/aiv/EVLA\\_CSV.html/EVLA\\_CSVGantt.html](http://www.alma.cl/aiv/EVLA_CSV.html/EVLA_CSVGantt.html)
- Initial targets for Q1/Q2 2010 posted to JIRA



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- [Group Browser](#)
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## Project: EVLA Commissioning and Science Verification

Project for organization of EVLA commissioning and science verification activities

**Key:** ECSV

**URL:** <http://science.nrao.edu/evla/>

**Project Team:**

Project Lead: [Joseph P. McMullin](#)

Default Assignee: Project Lead

Project Roles: [View members](#)

**Issue Type Scheme:** Issue type scheme for project ECSV ( [Select](#) | [Edit](#) | [Manage](#) )

**Notification Scheme:** None ( [Select](#) )

**Permission Scheme:** Default Permission Scheme ( [Select](#) | [Edit](#) )

**Issue Security Scheme:** None ( [Select](#) )

**Field Configuration Scheme:** ECSV Field Configuration Scheme ( [Select](#) | [Edit](#) )

**Issue Type Screen Scheme:** ECSV Issue Screen Scheme ( [Select](#) | [Edit](#) )

**Workflow Scheme:** None ( [Select](#) )

**CVS Modules:** None ( [Select Modules](#) )

**Mail Configuration:** Mail notifications from this project will come from the default address ( [Edit mail configuration](#) )

**Project Category:** EVLA Commissioning ( [Select Category](#) )

[Browse Project](#) | [Edit Project](#) | [Delete Project](#)

### Components

- [Add](#) a new component
- [Select](#) assignees for components

Astrometry (Lead: Walter Brisen)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Calibrator Surveys/Models/DBs (Lead: Amy Mioduszewski)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
High Frequency (Lead: Loran Sjouwerman)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Low Frequency (Lead: Emmanuel Momjian)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Mid Frequency (Lead: Vivek Dhawan)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
OSRO (Lead: Gustaaf Van Moorsel)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Planetary (Lead: Bryan Butler)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Polarization (Lead: Steve Myers)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Pulsar (Lead: Walter Brisen)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Rapid Response (Lead: Dale Frail)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
RSRO (Lead: Joseph P. McMullin)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Solar (Lead: Rick Perley)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
Spectral Line (Lead: Jurgen Ott)	( <a href="#">Edit</a>   <a href="#">Delete</a> )
VLBA/VLBI Compatibility (Lead: Craig Walker)	( <a href="#">Edit</a>   <a href="#">Delete</a> )

### Versions

- [Manage](#) versions (displayed in the order of newest first)

Q2 2011	30/Jun/11
Q1 2011	31/Mar/11
Q4 2010	31/Dec/10
Q3 2010	30/Sep/10
Q2 2010	30/Jun/10
Q1 2010	31/Mar/10

## How to interact with JIRA

- Log in; should see list of targets assigned to you
  - Can customize the view (later demo)
- There are 5 principal activities to be done while in JIRA
  - Provide an update on an assigned task (use the Comment link to enter a description)
  - Provide a comment on a task on someone else (use the Comment link to enter a description)
  - Log observing time obtained (use the Log work done to enter the amount of time and description, data file)
  - Decide to be notified of all updates to someone else's task (use the Watch It link)
  - Create a new task/subtask (break down a large task into component pieces, ideas for new observations/tests, etc)




See Illustration (next)



## Create Issue

Step 2 of 2: Enter the details of the issue...

Project: EVLA Commissioning and Science Verification

Issue Type:  Task

\* Summary:

Component/s:


Unknown  
Astrometry  
Calibrator Surveys/Models/DBs  
High Frequency  
Low Frequency

Data Flow Element:

None

Element in the end-to-end data acquisition to reduction.

Priority:

Major 

Due Date:

Fix Version/s:

Unknown  
**Unreleased Versions**  
Q1 2010  
Q2 2010  
Q3 2010  
Q4 2010

Original Estimate:

An estimate of how much work remains until this issue will be resolved.  
The format of this is '\*w \*d \*h \*m' (representing weeks, days, hours and minutes - where \* can be any number)  
Examples: 4d, 5h 30m, 60m and 3w.

Assignee:

- Automatic - 

\* Reporter:

jmcnulli 

Start typing to get a list of possible matches.

Description:

Attachment:

 no file selected

The maximum file upload size is 10.00 MB. Please zip files larger than this.

Environment:

For example operating system, software platform and/or hardware specifications (include as appropriate for the issue).

## ECSV

- Currently, notifications are turned off; they will be turned on by the end of the day; this means:
  - Science teams should log into JIRA and sign up to 'Watch' relevant tickets for their areas to insure that they receive all updates/comments as they happen
  - Science Leads will automatically be notified of any new targets created under their area
  - Subsequent comments/activity on tickets that are assigned or watched by you will send an e-mail notification
- JIRA Overhead
  - Fundamentally, the only overhead should be logging into JIRA; standard recording of activities and notes just get pushed here rather than into e-mails/elsewhere. Exploit notification scheme to know that everyone interested is hearing the information



## RSRO Proposal Tracking

- JIRA Project:
  - <https://bugs.aoc.nrao.edu/browse/RSRO>
- Organized by Proposal Cycle
- Dynamically scheduled
- JIRA Parent Ticket for recording observing proposal progress
- All interested team members (others?) may watch the ticket for any updates
- Generate sub-task(s) to enable leads/residents to organize and assign work within the team



**Illustration (next)**

## NRAO Bug Tracking System

Joseph P. McMullin Filters Log Out

HOME BROWSE PROJECT FIND ISSUES CREATE NEW ISSUE ADMINISTRATION

QUICK SEARCH:

### All Projects : RSRO (Key: RSRO)

**Project Lead:** [Joseph P. McMullin](#)

**URL:** <http://science.nrao.edu/evla/earlyscience/rsro.shtml>

**Description:**

EVLA Resident Shared Risk Observing Program (during commissioning)

☐ [Create a new issue in project RSRO](#)

☐ [Administer Project](#)

☐ [Release Notes](#)

Select: [Open Issues](#) [Road Map](#) [Change Log](#) [Popular Issues](#) [Versions](#) [Components](#)

#### Components

(with open issues in each component)

[Continuum](#)

2

[Polarization](#)

3

[Spectral Line](#)

5

[Trigger](#)

1

#### Versions

(with open issues due to be fixed per version)

[RSRO Cycle 1](#)

11

#### Reports

[User Workload Report](#)

[Version Workload Report](#)

[Time Tracking Report](#)

[Single Level Group By Report](#)

#### Preset Filters

- [All](#)
- [Outstanding](#)
- [Unscheduled](#)
- [Assigned to me](#)
- [Reported by me](#)
- [Resolved recently](#)
- [Added recently](#)
- [Updated recently](#)
- [Most important](#)

#### Project Summary

[Open](#) 11 100%

#### Open Issues

By Priority

[None](#) 11 100%

By Assignee

[Adam Leroy](#) 1 9%  
[Claire Chandler](#) 1 9%  
[Crystal Brogan](#) 1 9%  
[Dave Green](#) 1 9%  
[Jacqueline van Gorkom](#) 1 9%  
[James Miller-Jones](#) 1 9%  
[Laura Chomiuk](#) 2 18%  
[Manuel Aravena](#) 1 9%  
[Russ Taylor](#) 1 9%  
[Volker Heesen](#) 1 9%

## NRAO Bug Tracking System

Joseph P. McMullin Filters Log Out ?

[HOME](#) [BROWSE PROJECT](#) [FIND ISSUES](#) [CREATE NEW ISSUE](#) [ADMINISTRATION](#)

QUICK SEARCH:

Filter: [View](#) [Edit](#) [New](#) [Manage](#) ☐

You are currently using a new, unsaved search.

☐ [Save](#) it as a filter

### Summary

- ☐ Project: [RSRO](#)
- ☐ Fix For: [RSRO Cycle 1](#)
- ☐ Resolutions: Unresolved
- ☐ Sorted by: Key ascending, then Priority descending

### Operations

☐ [Save](#)

### Issue Navigator

Displaying issues 1 to 11 of 11 matching issues.

[\[ Permlink \]](#)

#### Current View:

Browser ( [Current Fields](#) | [Printable](#) | [Full Content](#) ) | [XML](#) | [RSS](#) ( [Issues](#) | [Comments](#) ) | [Word](#) | [Excel](#) ( [All fields](#) | [Current fields](#) )



- ☐ Bulk Change: [all 11 issue\(s\)](#)
- ☐ [Configure](#) your Issue Navigator

T	Key ↑	Summary	Assignee	Reporter	Pr	Status	Res	Created	Updated	Due
	<a href="#">RSRO-1</a>	AA330: Deep Search for CO Line Emission in a Cluster of Star-Forming Galaxies at z=1.5	<a href="#">Manuel Aravena</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	08/Jun/10
	<a href="#">RSRO-2</a>	AB1345: A Pilot Project for a Full Polarization Wideband Galactic Plane Survey	<a href="#">Dave Green</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	01/Jun/10
	<a href="#">RSRO-3</a>	AB1346: A Diagnostic K-band Survey of Massive Young (Proto)stellar Objects	<a href="#">Crystal Brogan</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	
	<a href="#">RSRO-4</a>	AC982: Grain growth and sub-structure in protoplanetary disks (KEY)	<a href="#">Claire Chandler</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	31/Mar/11
	<a href="#">RSRO-5</a>	AH1006: Star Formation and Magnetic Fields in Dwarf Galaxies	<a href="#">Volker Heesen</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	
	<a href="#">RSRO-6</a>	AK726: Quantifying the Dense Thermal Gas in Nearby Star-forming Galaxies	<a href="#">Laura Chomiuk</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	31/Jul/10
	<a href="#">RSRO-7</a>	AL746: Resolving the Starbursts in Nearby LIRGs and ULIRGs	<a href="#">Adam Leroy</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	15/Dec/10
	<a href="#">RSRO-9</a>	AM1014: Testing the Radio/X-ray Correlation in Quiescent Black Hole X-ray Binaries	<a href="#">James Miller-Jones</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	31/May/10
	<a href="#">RSRO-11</a>	AS1015: EVLA Can Reveal the Nature of Type Ia Supernova Progenitors	<a href="#">Laura Chomiuk</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	31/Jul/10
	<a href="#">RSRO-12</a>	AT374: Toward an EVLA Deep Polarization Field	<a href="#">Russ Taylor</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	01/Nov/10
	<a href="#">RSRO-13</a>	AV318: Gas Accretion in the Outskirts of Virgo	<a href="#">Jacqueline van Gorkom</a>	<a href="#">Joseph P. McMullin</a>		Open		24/Jan/10	01/Feb/10	01/Sep/10

## NRAO Bug Tracking System

Dashboard [AIV Test Portal](#)

Configure: [ON](#) | [OFF](#) [Manage Dashboard](#)

Category: **EVLA Commissioning** [\[hide\]](#)

Project: **EVLA Commissioning and Science Verification (ECSV)** [\[hide\]](#)

Project Lead: [Joseph P. McMullin](#)

Reports: [Open Issues](#) | [Road Map](#) | [Change Log](#) | [Popular Issues](#)

Open Issues: (By Priority)

No open Issues

Filter Issues:

- [All](#)
- [Outstanding](#)
- [Unscheduled](#)
- [Assigned to me](#)
- [Reported by me](#)
- [Resolved recently](#)
- [Added recently](#)
- [Updated recently](#)
- [Most important](#)

Project: **RSRO (RSRO)** [\[hide\]](#)

Project Lead: [Joseph P. McMullin](#)

Reports: [Open Issues](#) | [Road Map](#) | [Change Log](#) | [Popular Issues](#) | [Versions](#) | [Components](#)

Filter Issues:

- [All](#)
- [Outstanding](#)
- [Unscheduled](#)
- [Assigned to me](#)
- [Reported by me](#)
- [Resolved recently](#)
- [Added recently](#)
- [Updated recently](#)
- [Most important](#)

Statistics: **RSRO (Status)**

Total Issues: 13

 [Open](#)

13

100%

[My Unresolved Reported Issues](#) | [Watches](#) | [Votes](#)

Favourite Filters (Create New | Manage Filters)

[RSRO Proposals](#) [13](#)

[Unresolved](#) [575](#)

Open Issues: **In Progress** (Displaying 0 of 0)

You have no issues in progress at the moment.

Statistics Table: **RSRO Proposals**

RSRO Band Requirement	0.7 cm (Q) [40.0 - 50.0 GHz]	1 cm (Ka) [26.5 - 40.0 GHz]	1.3 cm (K) [18.0 - 26.5 GHz]	20 cm (L) [1.0 - 2.0 GHz]	3 cm (X) [8.0 - 12.0 GHz]	6 cm (C) [4.0 - 8.0 GHz]
Configuration						
<a href="#">A [0.68 - 36.4 km]</a>	<a href="#">1</a>	<a href="#">2</a>	<a href="#">1</a>	<a href="#">0</a>	<a href="#">0</a>	<a href="#">3</a>
<a href="#">B [0.21 - 11.1 km]</a>	<a href="#">1</a>	<a href="#">2</a>	<a href="#">1</a>	<a href="#">0</a>	<a href="#">0</a>	<a href="#">3</a>
<a href="#">C [0.035 - 3.4 km]</a>	<a href="#">1</a>	<a href="#">3</a>	<a href="#">3</a>	<a href="#">1</a>	<a href="#">1</a>	<a href="#">6</a>
<a href="#">D [0.035 - 1.03 km]</a>	<a href="#">2</a>	<a href="#">4</a>	<a href="#">5</a>	<a href="#">2</a>	<a href="#">1</a>	<a href="#">4</a>



## NRAO Bug Tracking System

Jacqueline van Gorkom

History

Filters

Log Out



[HOME](#) [BROWSE PROJECT](#) [FIND ISSUES](#) [CREATE NEW ISSUE](#)

QUICK SEARCH:

## NRAO Bug Tracking System

Configure: [ON](#) | [OFF](#) [Manage Dashboard](#)

Category: **EVLA Commissioning** [\[hide\]](#)

Project: **EVLA Commissioning and Science Verification (ECSV)** [\[hide\]](#)

Project Lead: [Joseph P. McMullin](#)

Reports: [Open Issues](#) | [Road Map](#) | [Change Log](#) | [Popular Issues](#) | [Versions](#) | [Components](#)

Open Issues: (By Priority)



Filter Issues:

- [All](#)
- [Outstanding](#)
- [Unscheduled](#)
- [Assigned to me](#)
- [Reported by me](#)
- [Resolved recently](#)
- [Added recently](#)
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Project: **RSRO (RSRO)** [\[hide\]](#)

Project Lead: [Joseph P. McMullin](#)

Reports: [Open Issues](#) | [Road Map](#) | [Change Log](#) | [Popular Issues](#) | [Versions](#) | [Components](#)

Filter Issues:

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Open Issues: **Assigned To Me** (Displaying 1 of 1)

[I](#) [RSRO-13](#) AV318: Gas Accretion in the Outskirts of Virgo

My Watches (Displaying 2 of 2)

	<a href="#">ECSV-17</a>	Target of Opportunity scheduling heuristics			<a href="#">Unwatch</a>
	<a href="#">ECSV-19</a>	Spectral line setup and calibration procedures			<a href="#">Unwatch</a>

[My Unresolved Reported Issues](#) | [Watches](#) | [Votes](#)

Note: All non-NRAO (and new NRAO) accounts have been set up to have this view of JIRA as their home screen (just see the EVLA Commissioning projects and activities that they are leading or watching.



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**Issue Details**
[\(XML\)](#)
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**Key:** [RSRO-13](#)  
**Type:** [i](#) RSRO Proposal  
**Status:** [Open](#)  
**Assignee:** [Jacqueline van Gorkom](#)  
**Reporter:** [Joseph P. McMullin](#)  
**Votes:** 0  
**Watchers:** 0  
**Available Workflow Actions**  
☐ [Start Progress](#)  
☐ [Resolve Issue](#)  
☐ [Close Issue](#)  
**Operations**  
☐ [Assign](#) this issue  
☐ [Attach file](#) to this issue  
☐ [Attach screenshot](#) to this issue  
☐ [Clone](#) this issue  
☐ [Comment](#) on this issue  
☐ Create [sub-task](#)  
☐ [Delete](#) this issue  
☐ [Edit](#) this issue  
☐ [Link](#) this issue to another issue  
☐ [Move](#) this issue  
☐ [Convert](#) to sub-task  
☐ **Voting:**  
 You have not voted for this issue.  
[Vote for it](#) if you wish it to be fixed  
☐ **Watching:**  
 You are not watching this issue.  
[Watch it](#) to be notified of changes  
☐ **Worklog:**

**RSRO**  
**AV318: Gas Accretion in the Outskirts of Virgo**  
 Created: 24/Jan/10 11:07 PM Updated: 01/Feb/10 10:33 PM Due: 01/Sep/10  
**Component/s:** [Spectral Line](#)  
**Fix Version/s:** [RSRO Cycle 1](#)  

<b>Time Tracking:</b>	Original Estimate:	12 hours	<div></div>
	Remaining Estimate:	12 hours	<div></div>
	Time Spent:	Not Specified	<div></div>

<b>RSRO Project Code:</b>	AV318
<b>RSRO Proposal Time Allocation:</b>	12h
<b>RSRO Band Requirement:</b>	20 cm (L) [1.0 - 2.0 GHz]
<b>RSRO Configuration:</b>	D [0.035 - 1.03 km]
<b>RSRO Observation Type:</b>	spectral line
<b>RSRO Residency Start:</b>	01/Feb/10
<b>RSRO Residency End:</b>	01/Sep/10

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[Comments](#)
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Sort Order: [v](#)

[Joseph P. McMullin](#) added a comment - 01/Feb/10 10:31 PM [\[ Permalink \]](#) [« Hide \]](#)  
 DSOC Room Assignment: 200F

[Joseph P. McMullin](#) added a comment - 01/Feb/10 10:33 PM [\[ Permalink \]](#) [« Hide \]](#)  
 Guidelines:  
 - Create sub-tasks as needed to organize/complete the proposal effort.  
 - Provide project code to collaborators so they may choose to "Watch it" (see left column Operations).  
 - Provide comments as updates as appropriate.  
 - When observations are scheduled/executed; log work to indicate the amount of observing time received/usable.  
 - Provide information on antennas available, time/date, scheduling block name, name of data file in the archive.

## RSRO Feedback Loop

- Any issues/problems encountered during the RSRO observations/analysis will become ECSV JIRA tickets
  - These will be followed up by the EVLA team at the appropriate priority



## Immediate “to dos”

- Finalize target/team leads: contact me or Joe with any concerns, questions, or team additions
- Immediate commissioning priority: preparation for start of OSRO observing
- Plans for all other upcoming targets nominally beginning 2009 Q4 through 2010 Q1 are due February 22
- Plans for future targets are due 1 month ahead of the start of the quarter (e.g., March 1 for Q2) so that test time can be planned and impact of commissioning on astronomical observing assessed
- NB: EVLA commissioning will continue to take priority, but we should be mindful that EVLA commissioning tests do impact users, so duplicate tests should be avoided if possible