# Organization of Staff and Testing during CSV

Alison Peck

# One Month Outline of Commissioning Staff Needed in Chile

| Location | Week 1 | Week 2 | Week 3 | Week 4 | Total |
|---|---|---|---|---|---|
| OSF | 2-3 x 3 shifts per day | 2-3 x 3 shifts per day | 2-3 x 3 shifts per day | 2-3 x 3 shifts per day | 24-32 people |
| SCO | 8-10 | 8-10 | 8-10 | 8-10 | |
| Off duty | 6-8 | 6-8 | 6-8 | 6-8 | |
| Research, travel or leave | 4-6 | 4-6 | 4-6 | 4-6 | |
| Total | 24-32 people | | | | |

Modified turno system (8/28)

# Actual staff in Place (March 2010)

| Source | 2010 Q1 | 2010 Q2 | 2010 Q3 | 2010 Q4 |
|---|---|---|---|---|
| JAO[1] | 16 | 16 | 16 | 18? |
| Sci IPT & Visitor | 3 | 2 | 3 | 3 |
| ARC & Pdoc[2] | 4 | 5 | 5 | 5 |
| Total Chile | 23 | 23 | 24 | 26 |
| Required Chile | 24 | 24 | 24 | 24 |

1)Operations astronomers are counted at 30% FTE toward CSV, AIV Scientists at 50% FTE, and postdocs 50%

2)ARC staff rotate through, but are expected to add up to 1 FTE per ARC

# Average numbers of people supporting AIVC

Scientists in daytime: 3
Scientists at night: 3-4
Computing support in daytime: 6
Computing support at night: 2
Engineering support in daytime: 18
Engineering support at night: (currently) on-call only

Handover of 3 AOS antennas currently being tested from engineering to scientists normally 12:00-13:00 except Wednesdays (Computing time from 10:00-22:00)
Testing continues until ~04:00 in 2 shifts

# Scheduling

- Staff scheduling is done for a full month, six weeks in advance
- Each Science Team member spends one 8-day shift at the OSF per month
- Scheduling based on availability, monthly to accommodate travel for conferences, vacations or other observing
- Goal to have 6-8 people up at any time during CSV

- Shift scheduling is done weekly, with refinements daily as circumstances change

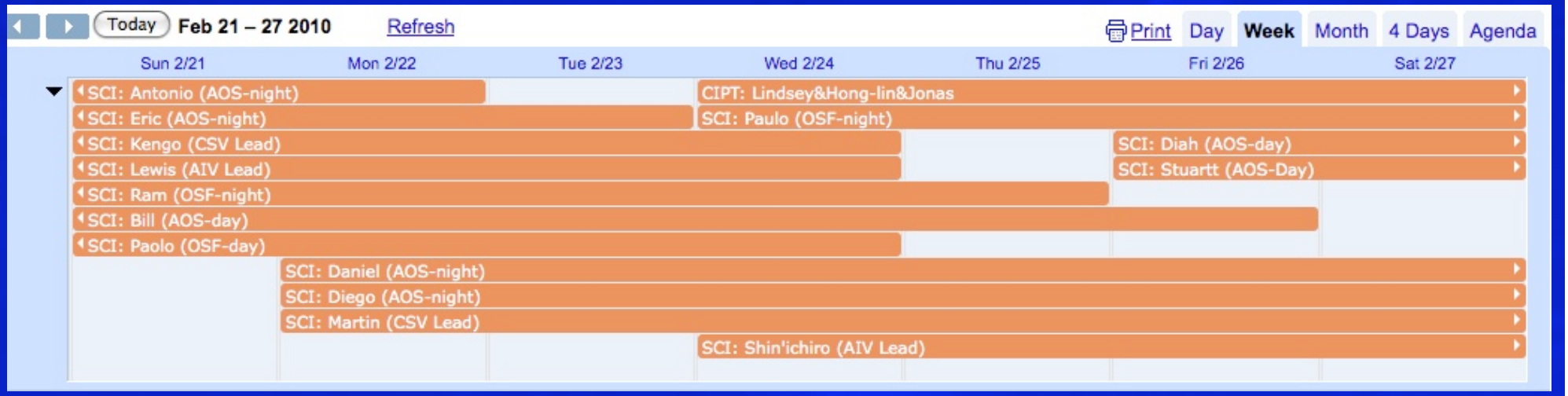
# Observing Shift Assignment

**Assessment of needs** – what activities will go on this week that require a scientist (observing, PAS, s/w testing, data analysis, report writing), and what are the likely demands on time? What time will these activities take place?

**Allocation of time** - scientists are assigned to tasks based on experience and availability. Alison sends email and adds info to Google calendar

**Reporting and Feedback** - same as AIV, staff use Science Activity Journal and Shift Log Tool (when available), as well as filing JIRA tickets to track progess

# Weekly Schedule




Earthquake recovery plan - return to full strength by Friday:

5 CSV scientists arrived OSF this morning (Robert Lucas-CSV Lead)

2 AIV scientists (Lewis Knee-AIV Lead)

Additionally one CSV Sci going Wednesday, 2 on Friday

# Support from Santiago

- Needs for support from scientists in Santiago are assessed at each Daily Science meeting.
- Support can be for daytime data reduction, advice during setup, or active participation in new types of tests via a remote observing station. No antenna movements are executed remotely, but the Santiago scientist can view the commands being issued and any error messages in real time.
- The remote observing station can also be run independently in simulation mode, for prior testing of observing scripts.

# Evening shift in new Control Room

# Organizational meetings

## Matrix management requires frequent updates

Daily:

- **Science Coordination** - All scientists, evaluate previous night's data, make plans for testing

- **AIV Coordination** - Engineering, antenna and s/w leads, some scientists, discuss plan for testing and status of equipment

# Organizational meetings

Weekly:

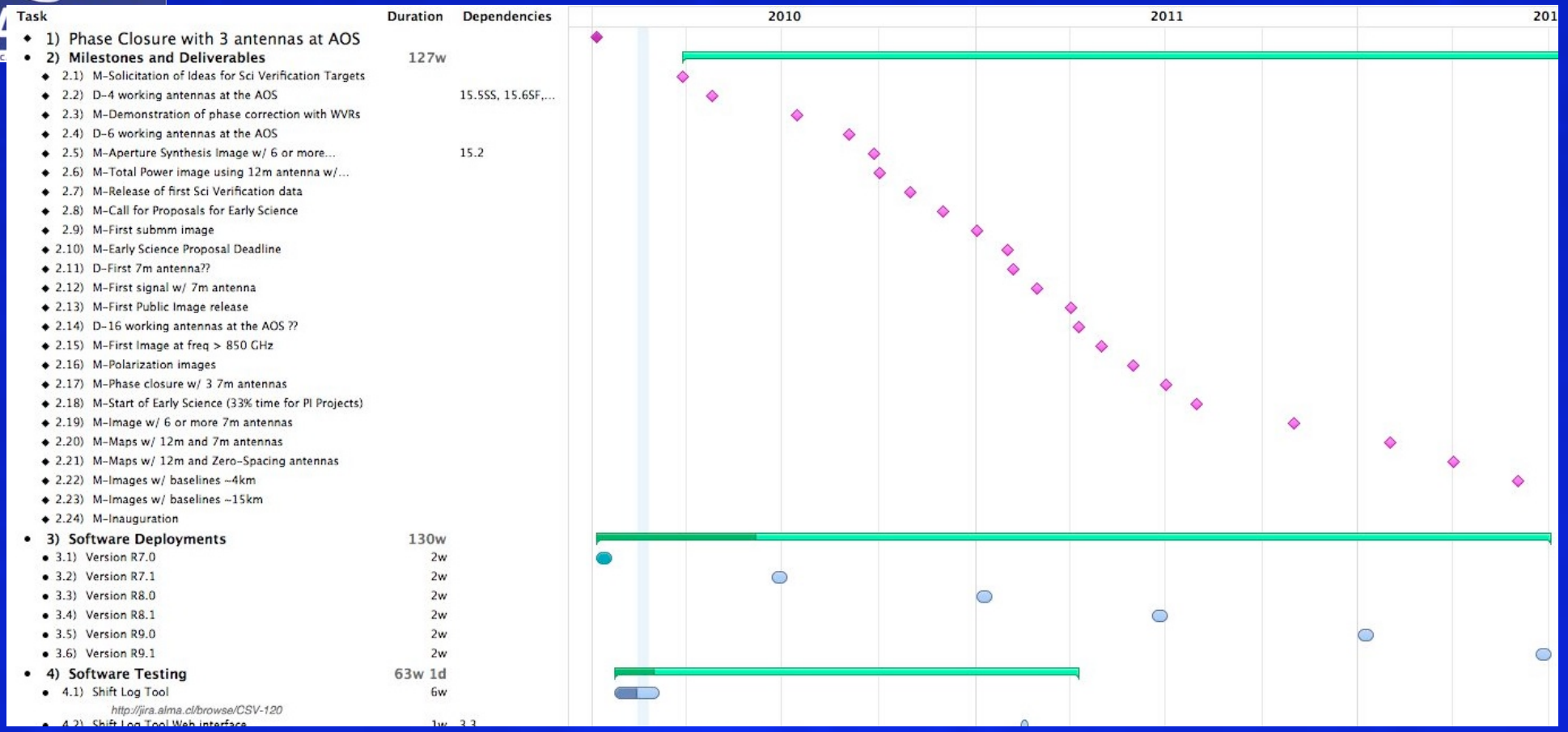
- **Science Coordination** - All Scientists, some SV and Computing staff: report status of ongoing tasks, discuss new problems or upcoming campaigns, form "tiger teams" to investigate anomalies:
(http://wikis.alma.cl/bin/view/AIV/WeeklyScienceCoordinationMeetings)

- **AIV Coordination** - Summary of status of work at OSF, AOS, and deliveries from Executives

- **IPT Leads** - Summary of activities of all groups, status of deliveries to Chile, testing at other sites

# Overall Planning documentation:

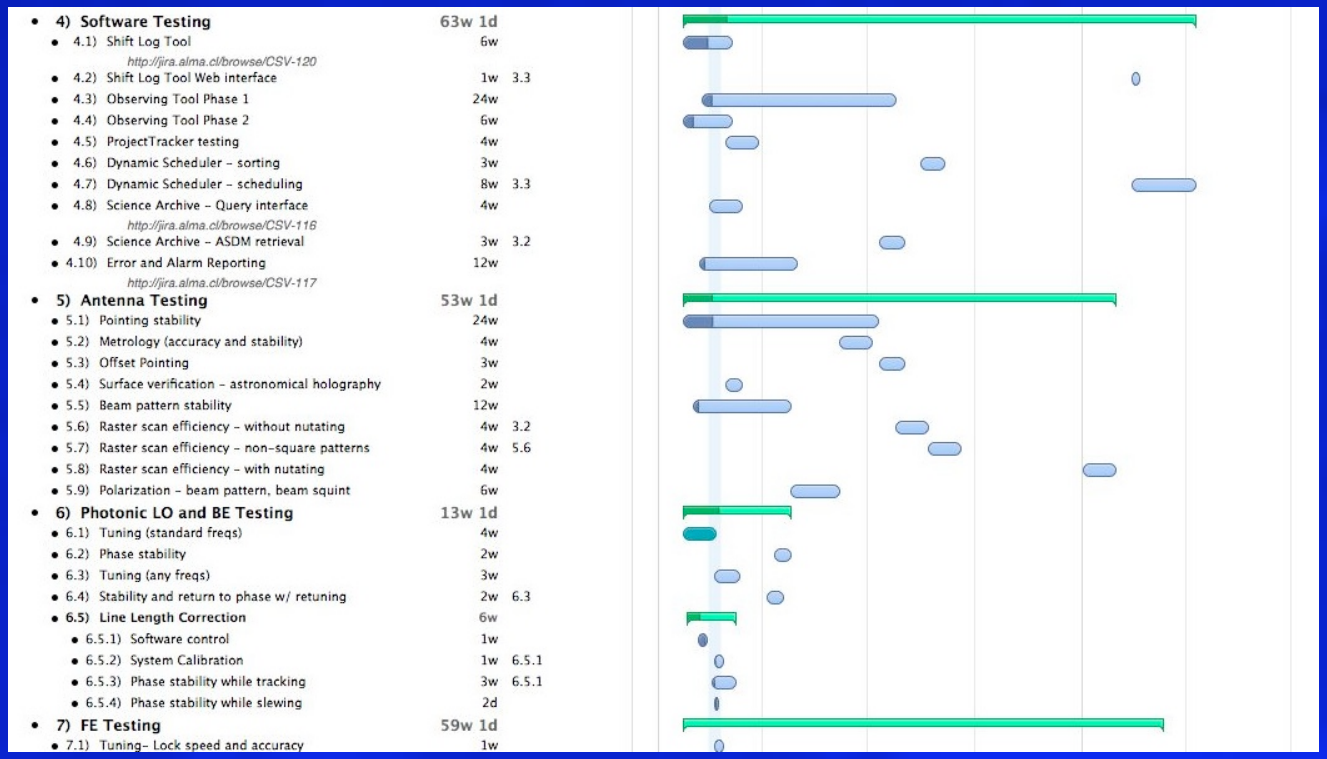
## anchored by deliveries, milestones and s/w deliveries




Excerpt of MPP plan at:
http://www.alma.cl/~apeck/test/Commissioning%20Implementation/

# Overall Planning documentation:

## Testing categories with approx start dates and durations



| | | |
|---|---|---|
| **4) Software Testing** | **63w 1d** | |
| 4.1) Shift Log Tool | 6w | |
| *http://jira.alma.cl/browse/CSV-120* | | |
| 4.2) Shift Log Tool Web interface | 1w | 3.3 |
| 4.3) Observing Tool Phase 1 | 24w | |
| 4.4) Observing Tool Phase 2 | 6w | |
| 4.5) ProjectTracker testing | 4w | |
| 4.6) Dynamic Scheduler – sorting | 3w | |
| 4.7) Dynamic Scheduler – scheduling | 8w | 3.3 |
| 4.8) Science Archive – Query interface | 4w | |
| *http://jira.alma.cl/browse/CSV-116* | | |
| 4.9) Science Archive – ASDM retrieval | 3w | 3.2 |
| 4.10) Error and Alarm Reporting | 12w | |
| *http://jira.alma.cl/browse/CSV-117* | | |
| **5) Antenna Testing** | **53w 1d** | |
| 5.1) Pointing stability | 24w | |
| 5.2) Metrology (accuracy and stability) | 4w | |
| 5.3) Offset Pointing | 3w | |
| 5.4) Surface verification – astronomical holography | 2w | |
| 5.5) Beam pattern stability | 12w | |
| 5.6) Raster scan efficiency – without nutating | 4w | 3.2 |
| 5.7) Raster scan efficiency – non-square patterns | 4w | 5.6 |
| 5.8) Raster scan efficiency – with nutating | 4w | |
| 5.9) Polarization – beam pattern, beam squint | 6w | |
| **6) Photonic LO and BE Testing** | **13w 1d** | |
| 6.1) Tuning (standard freqs) | 4w | |
| 6.2) Phase stability | 2w | |
| 6.3) Tuning (any freqs) | 3w | |
| 6.4) Stability and return to phase w/ retuning | 2w | 6.3 |
| **6.5) Line Length Correction** | 6w | |
| 6.5.1) Software control | 1w | |
| 6.5.2) System Calibration | 1w | 6.5.1 |
| 6.5.3) Phase stability while tracking | 3w | 6.5.1 |
| 6.5.4) Phase stability while slewing | 2d | |
| **7) FE Testing** | **59w 1d** | |
| 7.1) Tuning– Lock speed and accuracy | 1w | |

Excerpt of MPP plan at:
http://www.alma.cl/~apeck/test/Commissioning%20Implementation/

# Current Task Assignments

## Currently Active:

### Antenna

1. Out-of-focus beam maps:
   - Lucas, **Barkats**, Sawada, Simms, Garcia, Tachihara, Wilson, Sugimoto:JIRA CSV-101
2. Moon and Sun Scans:
   - Nikolic, **Zwaan**, Sawada, Barkats, Fulla, Sheth, Sugimoto:JIRA CSV-99
3. Pointing issues - items left over from from AIV testing: Currently,
   1. PM03 incremental offset problem. JIRA AIV-1268
   - Hills, **Hales**, Planesas, Mauersberger, Sawada, Kneissl, Tachihara, Snow
4. Antenna tracking:
   - Mangum, **Mauersberger**, Sawada, Simms, Wootten, Kneissl, Vila-Vilaro:JIRA CSV-102

### Calibration

1. WVR testing:
   - Nikolic, **Lucas (Wootten)**, Villard, Fulla, Corder, Wootten, Wiklind, Wagg, Sramek, Bhatia:JIRA CSV-108

### Front End

1. Tunability - can we tune randomly using CCL and SBs:
   - Peck, **Simms**, Wootten, Dent, Wiklind, Zwaan, Barkats, Bhatia :JIRA CSV-113

### Observing Modes

1. Standard Interferometry using OT (obsmodes): Develop "how-to" procedures on the web, write, test and store several SBs, create twiki with working SBs to use as examples
   - Peck, **Rawlings**, Lucas, Wootten, Dent, Wiklind, Fulla, Garcia, Zwaan, Remijan: JIRA CSV-127
2. Initial Polarization trials:
   - Rao, **Barkats**, CortesP, Hills, Sramek:JIRA CSV-92

Excerpt from http://wikis.alma.cl/bin/view/AIV/ScienceGroupTaskAssignments

# Suspended or Completed Tasks

## Persistent or Suspended Tasks:

1. Astronomical Holography:
   - Corder, EmersonD, **Villard**, Mauersberger, Lucas, Vila-Vilaro, Sheth, Sugimoto: JIRA CSV-98
   - **algorithm and software working, waiting for short baselines**
2. Pointing monitoring:
   - Hills, **Hales**, Mauersberger, Wiklind, Garcia, Martin, Tachihara, Planesas, Snow: JIRA CSV-84
   - **recent pointing data for all antennas has been added to subtask tickets - recheck right before move to ACA pads**
3. Amplitude calibration: Mangum, Sramek, **Corder**, Lucas, Barkats, Wootten, Kneissl, Tachihara: JIRA CSV-128
   - **Planning underway - awaiting fix for ACD motion**
4. Correlator mode verification:
   - Kern, **Dent**, Wootten, CortesJ, Zwaan, Sheth, Remijan JIRA CSV-121
   - **Halted pending "subscan data flow error" bug fix - expected end of Feb**
5. Baseline Measurements and Stability:
   - Lucas, **Fulla**, Mauersberger, Barkats, Corder, Martin, Sramek:JIRA CSV-107
   - **Add information on current config to** JIRA CSV-130, **then await move to ACA pads**

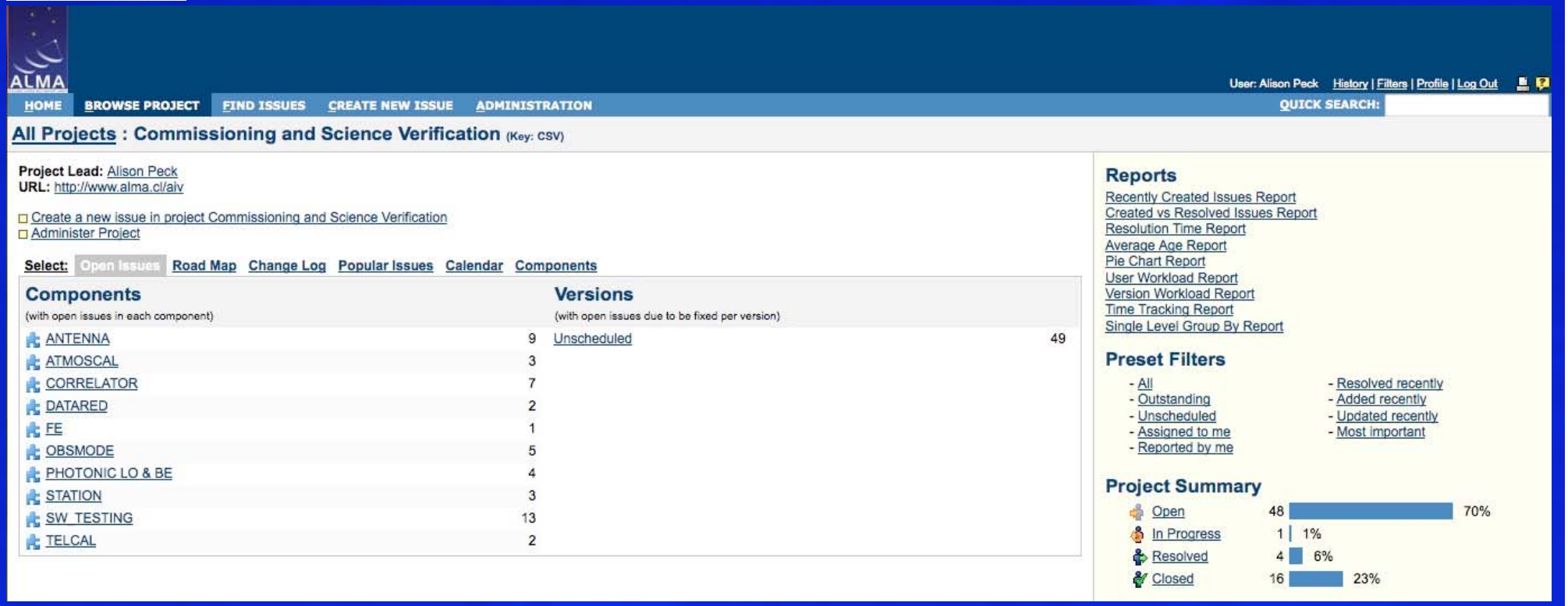
## Completed Tasks:

1. Pointing issues - items left over from from AIV testing
   - DV01 terms in 2*AZ. Plan to pick up and set down antenna, Recheck pointing -- **closed, successful** JIRA AIV-1469

Excerpts from http://wikis.alma.cl/bin/view/AIV/ScienceGroupTaskAssignments

# Reporting on Tasks and Ongoing Tests

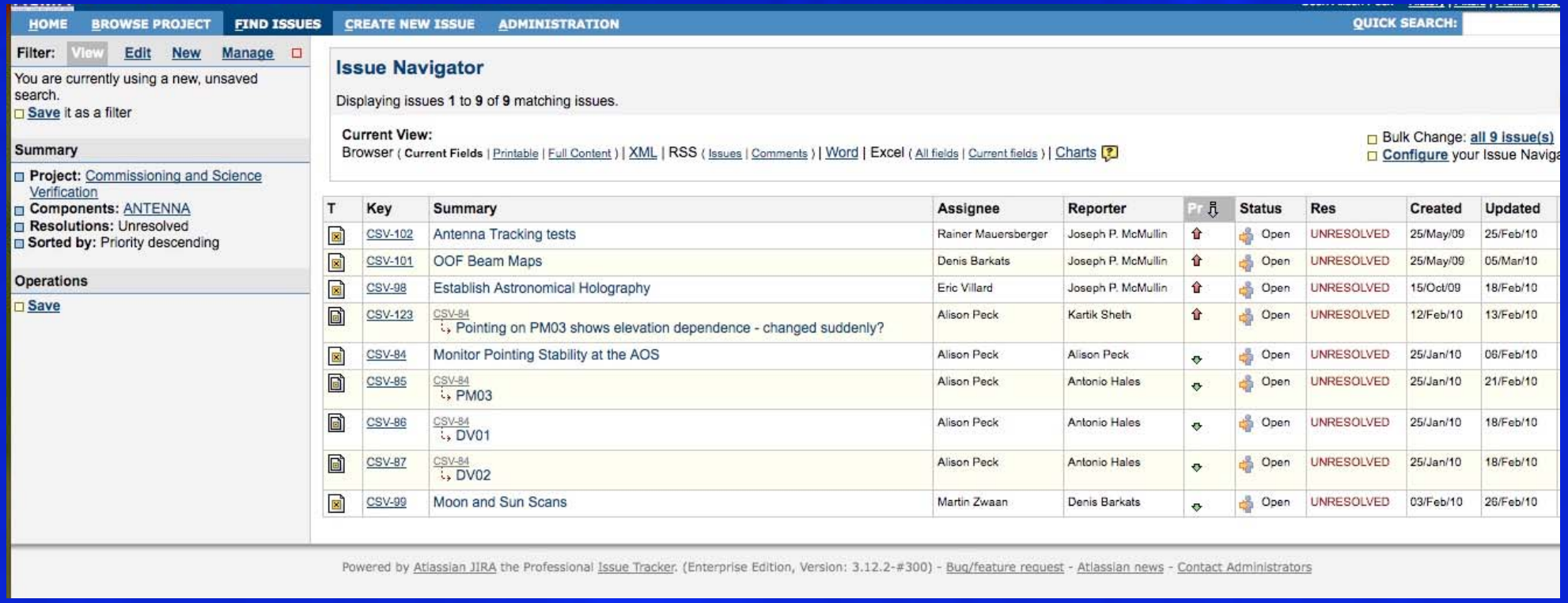
## JIRA CSV overview




http://jira.alma.cl/secure/BrowseProject.jspa?id=10190

# Tasks and Ongoing Tests by Category

## JIRA Components within CSV



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:** Commissioning and Science Verification
- **Components:** ANTENNA
- **Resolutions:** Unresolved
- **Sorted by:** Priority descending

**Operations**
- Save

**Issue Navigator**

Displaying issues **1** to **9** of **9** matching issues.

**Current View:**
Browser ( **Current Fields** | Printable | Full Content ) | XML | RSS ( Issues | Comments ) | Word | Excel ( All fields | Current fields ) | Charts

Bulk Change: all 9 issue(s)
Configure your Issue Naviga

| T | Key | Summary | Assignee | Reporter | Pr | Status | Res | Created | Updated |
|---|---|---|---|---|---|---|---|---|---|
| | CSV-102 | Antenna Tracking tests | Rainer Mauersberger | Joseph P. McMullin | | Open | UNRESOLVED | 25/May/09 | 25/Feb/10 |
| | CSV-101 | OOF Beam Maps | Denis Barkats | Joseph P. McMullin | | Open | UNRESOLVED | 25/May/09 | 05/Mar/10 |
| | CSV-98 | Establish Astronomical Holography | Eric Villard | Joseph P. McMullin | | Open | UNRESOLVED | 15/Oct/09 | 18/Feb/10 |
| | CSV-123 | CSV-84 ↳ Pointing on PM03 shows elevation dependence - changed suddenly? | Alison Peck | Kartik Sheth | | Open | UNRESOLVED | 12/Feb/10 | 13/Feb/10 |
| | CSV-84 | Monitor Pointing Stability at the AOS | Alison Peck | Alison Peck | | Open | UNRESOLVED | 25/Jan/10 | 06/Feb/10 |
| | CSV-85 | CSV-84 ↳ PM03 | Alison Peck | Antonio Hales | | Open | UNRESOLVED | 25/Jan/10 | 21/Feb/10 |
| | CSV-86 | CSV-84 ↳ DV01 | Alison Peck | Antonio Hales | | Open | UNRESOLVED | 25/Jan/10 | 18/Feb/10 |
| | CSV-87 | CSV-84 ↳ DV02 | Alison Peck | Antonio Hales | | Open | UNRESOLVED | 25/Jan/10 | 18/Feb/10 |
| | CSV-99 | Moon and Sun Scans | Martin Zwaan | Denis Barkats | | Open | UNRESOLVED | 03/Feb/10 | 26/Feb/10 |

Powered by Atlassian JIRA the Professional Issue Tracker. (Enterprise Edition, Version: 3.12.2-#300) - Bug/feature request - Atlassian news - Contact Administrators

http://jira.alma.cl/secure/BrowseProject.jspa?id=10190

# Reports on Specific Tasks and Investigations

## Single Task format

**Establish Astronomical Holography**

Created: 15/Oct/09 11:00 PM Updated: 18/Feb/10 09:23 PM Due: 30/Nov/09

Issue 3 of 9 issue(s)
<< Previous | CSV-98 | Next >>

Type: Task
Status: Open
Priority: Major
Assignee: Eric Villard
Reporter: Joseph P. McMullin
Votes: 0
Watchers: 7

**Available Workflow Actions**

- Resolve Issue
- Close Issue

**Operations**

- Assign this issue (to me)
- 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:
  Worked on this issue? Log work done

**Component/s:** ANTENNA
**Affects Version/s:** None
**Fix Version/s:** None

**Time Tracking:**

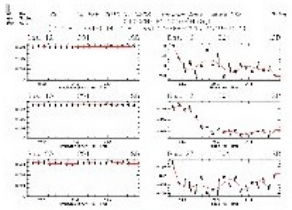
| | |
|---|---|
| Original Estimate: | 1 day |
| Remaining Estimate: | 1 day |
| Time Spent: | Not Specified |

**File Attachments:**

(Click on column header to sort)

| File Name | Date Attached ↑ | Attached By | Size |
|---|---|---|---|
| AstroHolographySB_0538-440_48ms_20100212.pdf | 2010-02-18 09:23 PM | Eric Villard | 135 kb |
| AstroHolographySB_0538-440_240ms_20100212.pdf | 2010-02-18 09:23 PM | Eric Villard | 131 kb |
| Kick-off meeting.pdf | 2010-02-16 10:54 AM | Richard Hills | 13 kb |
| uid___X02_X31a66_X1-clic.txt | 2010-02-13 08:33 PM | Tsuyoshi Sawada | 2 kb |
| Astronomical Holography Notes.pdf | 2010-02-12 03:58 PM | Richard Hills | 9 kb |

**Image Attachments:**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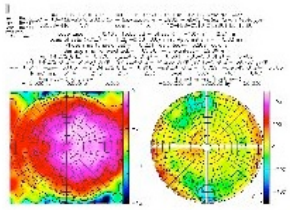
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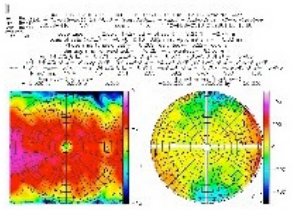
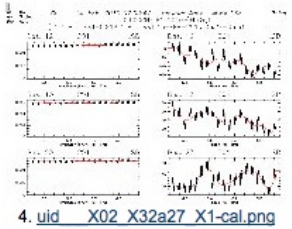

3. uid___X02_X31a66_X1-PM03.png (60 kb)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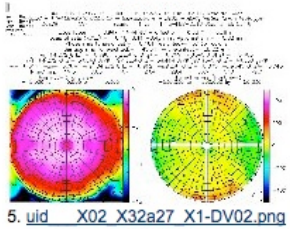
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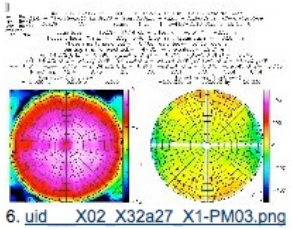
6. uid___X02_X32a27_X1-PM03.png (53 kb)

**Additional Users to email:** Baltasar Vila Vilaro, Darrel Emerson, Denis Barkats, Diego Garcia, Eric Villard, Kartik Sheth, Lewis Knee, Masahiro Sugimoto, Rainer Mauersberger, Ralph Marson, Richard

http://jira.alma.cl/secure/BrowseProject.jspa?id=10190

# Shift-to-Shift Reporting and Continuity

TWiki > AIV Web > ScienceCoordinationGroupPage > ScienceActivityJournal > CsvDaily2010Feb (02 Mar 2010, MartinZwaan)

## 2010-02-01 AOS Shift report

Day Shift: J. Kern, T. Wilson, A. Peck, L. Simms (AOS), S. Asayama (OSF)
Night Shift: A. Wootten, D. Barkats, T. Sawada (AOS), ), S. Asayama
(OSF)

Goals:
- Try to understand discrepancy of frequency axes as a function of bandwidth with Orion data sample
- Test 4 polarization data acquisition, acquire data for Phase/ Amplitude/bandpass stability
- Test DV05-DV03 OSF interferometer

Issues:
- Spurious spikes in DV05 autocorrelation, suspect is digital clock in backend
- ShiftLogTool is slow to respond (created AIV-2043)
- Subscan data flow error when running DelayCal? .py to observe different quasars
- Laser Synthesiser stuck in Phase Locking state (AIV-1325)
- TestCalSpy? shows odd results with 4 polarization (created CSV-96)

Successes:
- 4 Polarization data acquired and looks good (existing CSV-92)
- Searchability in ShiftLogTool Report Tab is now working and readability is improved (AIV-1911, AIV-1912)
- Fringes obtained with DV03-DV05 interferometer

NOTES: New JIRA tickets are labeled "created"; existing ones are not preceded by a label

## 2010-02-03 AOS Shift Report