



ALMA Offline User
Test 5: Synthesis &
Single Dish
Wrap up discussion

Final report

ALMA Offline User Test 5 March 2007 Final Report and Testing Summary	Doc #: COMP-70.10.00.00-001-A-REP Date: 3/9/2007 Status: Released (Draft, Pending, Approved, Released, Obsolete) Page: 3 of 11
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Questionnaires and requirements grades go here. Executive summary (and final report) to ALMA board and all review committees.

Test Survey goes to NRAO & ALMA management. Then distributed to ALMA board, etc...

General impressions of the software?

Single dish:

- MO: some new functionality needed. MO can use the software but need to improve the user interface. After improve the User Interface, then will be useful with tasks.
- Proposed Single Dish tasks: are they about right? TR: make the synthesis and SD interfaces similar (task, go...). Don't make the Single dish like unipops, stay consistent with CASA synthesis (all agree). LK: future will be with large single dish datasets with thousands of spectra. Make sure you are able to set up a task and then let it crank away. RL: but still need a graphical interface for running the tasks.
- RL: Need to be able to set defaults and globals for a given project and remember last inputs for each task. True for GUI inputs and CLI tasks.
- Move to GUI interfaces in the mid-term (not far term). Nobeyama interface looks promising for GUI design (there is an OTF interface as well)

General impressions of the software?

Synthesis:

- Parameter defaults for tasks: do we need just a tget or pull up your parameters – Steve has a demo of this task.
- Make sure parameters are consistent within tasks
- Easy to navigate but error messages are obscure and programmer-oriented, needs to be user oriented.
- SL: get rid of global parameters!!!! LK: be able turn it off. 60% want default=ON
- Easy to crash if you deviate from the regression scripts.- need a quiet abort and better feedback about what it is doing. So before you release the software, make it more robust to user mistakes. Need a better fuzzy feeling when things go wrong to figure out what happened. Weird machine errors (python responses) are not helpful!

General impressions of the software?

Synthesis:

- Plot 30M points? Are you sure?
- TR: “Its an incredibly great piece of software”
- Need 2 paths: clean AND invert/clean+restore (for difficult maps)
- SD & synthesis: RL: commissioning: still not there. The display is slow, needs improvement. Functionality is still not complete: be able to select a single BL and plot xy, average in time and frequency, be able to combine spectral windows and plot. If select many things, CASA should be able to figure out how to plot many things selected (don't make the user figure out which subplot to use if they can just use a default display of 4 things).
- Also can't plot autocorrelations in the synth datasets, we need this.
- Very nice to have viewer plot visibility datasets – But need more parameters added to the adjust panel. Like as flexible as in plotxy. Good to have the same interface between plotxy and the viewer.
- Commissioning first – need first.

General impressions of the documentation?

Cookbook (organization & content):

- Must make a compromise: task or tool kit? We will go with TASK explanations only. Users LIKE TASKS. Tools should only be in a User Reference manual for developers, not in a cookbook.
- Provide scripts for examples.
- Only have simplest use cases in the main text of the Cookbook then other examples in an appendix. Cookbook should have the common things everyone knows then put special things in appendix.
- Have database/repository of scripts to find something simple.
- Need more background on synthesis processing – primer on basics more. Provide flowchart for how to reduce data, what tasks are needed.
- Explain all parameters: uniform and natural weighting. → user reference manual. Have in in-line help and be able to put it in a single document.
- Explain why you would want to use different parameters.
- Compile references for more, detailed information. Proceedings, etc...
- Make an example chapter and get.

General impressions of the documentation?

In line:

- Good idea – must be there and must be complete. Needs more information about each parameter and how to set them. Sometimes OK, some times not.
- 2 pages on a task help about right for a long task (clean, image)
- Help par.parameter filled out: Need more than one word to describe a parameter!

Use before Beta Release – getting ready:

- Synthesis: Your use with real data – possible?
 - TR: will use CASA exclusively for science data. Has CARMA data too.
 - PO: Would like Apex imaging and visualization (not calibration) but fill to CASA may be a problem. Interested in working with the CASA simulation.
 - SL: GILDAS CLASS to ASDM fits? RL will check. CASA is too slow for SMA – must be as fast as miriad; Can't process single spectra. Analysis is missing for everything (PV diagrams, flux over area, interactive clean). PdB → ASDM OK in clic, Joe will make ASDM filler complete so can reduce PdB data.
 - AR: PdB data.
 - LK: DRAO data a bit further (but no calibration possible). SD: import JCMT and reduce and image it. JCMT to fits OK but fill to CASA? Maybe Pentiction can work on fill issues but must be lower priority for CASA in next 6 months.
 - RL: PdB to ASDM support. Install on RHE laptop to test ASDM. Commissioning feedback when at the ATF.

Use before Beta Release – getting ready:

- Single dish:
 - commissioning data support.
 - Processing of continuum maps. RL has continuum maps, Steve and Michael have some GBT continuum data.
 - Need another iteration on tasks and cookbook for SD processing. MO and ST can look at the new version and provide comments.
 - MO: Mac OS installation and test on existing datasets.

With recommendations provided here, do you think the software/documentation can be ready for beta release in September?

Synthesis:

- People will be curious to see how it is. They won't expect it to work for every thing.
- Make it robust and not crash and provide adequate user feedback and documentation. Must be able to install EASILY. Read in specific datasets.
- Data support: some standard VLA data, *standard* uvfits. Anything that can be read into AIPS is standard uvfits.
- Don't worry so much about functionality/fancy tools – limited functionality. CLEARLY state what is not possible now but it will be.

Single dish:

- Not advertised for beta release.
- Internal testing and continue to develop the interface
- Support commissioning.

Last comments?

Great interest in using CASA in Canada.