



CASA User Interface Charette



CASA

Python scripting

IPython interface

matplotlib plotter/functionality

Automatic logging of commands

Automatic logging of tool output

AIPS++ tool access

cb – calibrator

im – imager

ms – MeasurementSet

mp – msplot

tb – tables

tp – tableplot

cp – calplot

pl – pylab functions

af – autoflag

me – measures

ia – images (image analysis)

cs – coordsys

asap – single dish analysis

qtviewer



CASA Interface (IPython)

- on-line help
- automatic parentheses
- system shell access
- logging
- history and searching
- macros
- on-line editing
- executing scripts
- <tab>completion

Example:

```
mp.open 'ngc5921.ms'  
mp.uvcoverage
```



CASA Tools and Tasks

Tools

- Definition
 - AIPS++ tool.method level of functionality
- Interface
 - Data is loaded and unloaded into tools

Tasks

- Definition
 - Level of functionality as in AIPS or MIRIAD
 - AIPS ‘top tasks’ sheet
- Interface
 - TBD
 - Curses form, POPS-like, window
 - Functionality
 - inp
 - save
 - restore
 - annotate
 - defaults
 - go
 - quit
 - param=value



CASA Documentation

Existing

- Cookbook
- On-line help
- User Ref Man

Discussion/Decision Areas

- Maintenance
- Format
- Content
- Developer Docs



CASA Distribution

Distribution:

- `ftp://ftp.cv.nrao.edu/casa/development/load-casapy`
 - `./load-casapy -root`
- Installed in `/usr/lib/casapy`, `/usr/lib/casa` directories
 - 160 MB
 - Download and install ~ 3 minutes
- Contains:
 - Python (2.4.2), IPython (0.7.1), matplotlib, numeric, pytz and dateutil that are known compatible with CASA

OS

- RHE4 rpms
- OSX Darwin port
- Other?



ALMA 2006.01-4

- Interface okay
- Needed tables
- Flagging needs some improvements
- Want generic plotxy

Known Issues:

- memory usage
- robustness



Schedule

2006

- Feb: ALMA single baseline test
- Mar: This meeting
- Jul: EVLA test
- Sep: AIPS++ freeze
- Oct: ALMA single dish

Complete

- ia – image analysis (images)
- cs – coordsys
- fn – functionals
- ft – fitting
- cm – componentmodels
- qu – quanta
- sm - simulator

2007

- Jan: RFI/flagging test
- Jan: Initial CASA release

Task/parameter handling

Core synthesis tasks

Package and distribute qtvviewer

Assay conversion

measuresdata/repository work



Tool functionality/interface

xy plotting

- Need units display and selection
- Add markersize parameter to plotoptions
- Add linewidth parameter to plotoptions
- Add markinfo method that gives information on selected points for review
- Plotxy works for anything versus anything
- need legends
- Extra output from plots

•cb

- Want multi-component model fit interface

•ms

- Autosplit task – by fields and optionally by spectral window

•Flagging

- Need <esc> to clear markflag regions
- Add printflags method
- Need unflagdata method
- Need extend flags controls
- Flag on spectral averages



Discussion Teams

CASA general (IPython)
interface

Tool migration priorities

Documentation a.k.a “to wiki or
not to wiki”

Logging

Task definition

Task/parameter handling

Qtviewer (priorities)



Meeting

March 27 - 31

0930-1400 MST
AOC 280/ER 230

Recommendations:

- Use imager-a, imager-b, imager-c
(keep data local)

March 27

Start at 1030

Startup

```
./home/basho/casa/framework/casa.sh  
source /home/basho/casa/framework/casa.csh
```

March 29

AOC 317

```
cp ~jmcmulli/.ipython/ipythonrc  
$HOME/.ipython
```

March 29

AOC 317 1300 MST
NAUG meeting

```
cp ~jmcmulli/.matplotlib/matplotlibrc  
$HOME/.matplotlib
```

March 31

1300 MST
Wrap-up meeting

```
> casapy
```



Local

Brisken	AOC301	Schiebel	video
Brogan	AOC209	Waters	AOC316->373
Fomalont	AOC209?	Whysong	AOC300A
Greisen	AOC318	Young	AOC378
Hibbard	AOC209		
Li	video		
McMullin	AOC368		
Myers	AOC376		
Owen	AOC320		
Rusk	video		