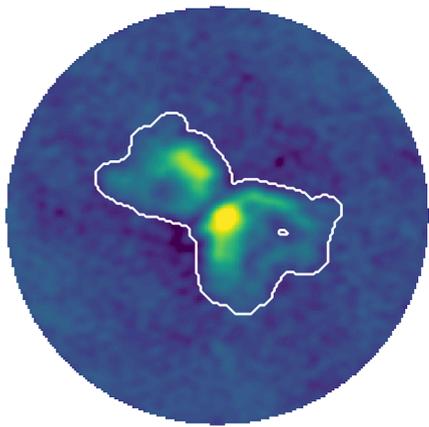


## Common Astronomy Software Applications

CASA is the primary data processing software for the Atacama Large Millimeter/submillimeter Array (ALMA) and the Very Large Array (VLA), and often used also for other radio telescopes, both interferometric and single-dish. The National Radio Astronomy Observatory (NRAO) guides an international team of developers and scientists who maintain the CASA software.

### ALMA / VLA pipelines: parallel imaging & automated masking



A core aspect of CASA development is support of the ALMA, VLA and VLA Sky Survey (VLASS) pipelines. ALMA Cycle 6 (CASA 5.4.0) offers the first pipeline use of parallel processing mode in CASA task `tclean`, achieving substantial performance improvement for imaging. Endorsement of parallel imaging for general use is foreseen for upcoming CASA releases. The CASA 5.4 pipeline releases also have further improvements in automated masking in `tclean` (Figure – credit: A. Kepley)

### CARTA

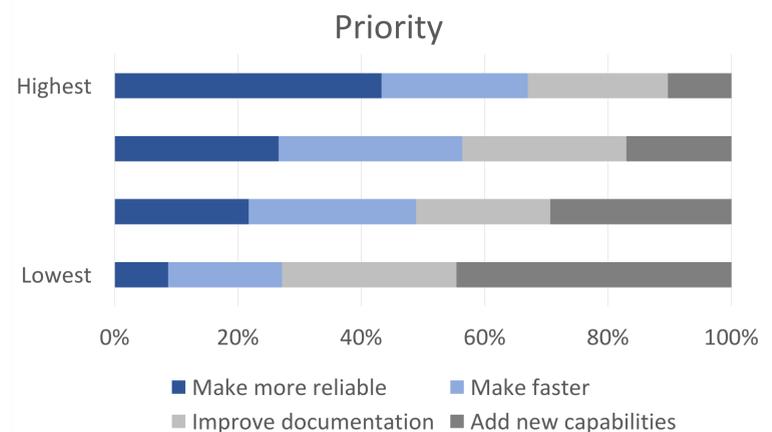
The Cube Analysis and Rendering Tool for Astronomy (CARTA) version 1.0 has been released! Further development is progressing steadily. CARTA is eventually expected to replace the CASA Viewer, and serve as the main visualization tool for data from ALMA, VLA and SKA pathfinders.



CARTA consortium: ASIAA (Taiwan), IDIA (SA), NRAO (US), U. Alberta (Can)

<https://cartavis.github.io/>

### CASA User Survey



An ongoing CASA User Survey revealed that our users request to make CASA more reliable. Accordingly, the CASA team is gradually improving on reliability with a new approach to testing, validating and documenting CASA developments, while being realistic with implementing new features in next year's CASA 5.5.

CASA Survey: <https://feedback.nrao.edu/index.php?sid=35257>

### CASA 6:

### Flexibility in python™

CASA consists of C++ tools bundled together under an iPython interface as data reduction tasks. CASA has always been distributed as a single, integrated application, which included a Python interpreter and all of the libraries, packages and modules. This monolithic distribution makes it difficult to use CASA along with other Python packages. As part of a switch from Python 2 to 3, CASA 6.0 will be reorganized to support building CASA tools and tasks with Python's `distutils` (and GNU `autoconf`), allowing greater flexibility for users. CASA will also continue an optional all-inclusive distribution.

### CASA Docs: documentation

The official CASA documentation is CASA Docs: <https://casa.nrao.edu/casadocs>

The migration to CASA Docs as primary source of documentation is nearing completion, and all CASA tasks are now described. We are currently giving CASA Docs a brand new look for next year's CASA 5.5. Together with streamlining the inline help and improving the search options, we hope that the continuing improvements of CASA Docs will enhance user experience of CASA.

**Careers:** the CASA team is continuously growing, and we are often looking for qualified software engineers and scientists to join us! See <http://jobs.jobvite.com/nrao> for the latest job info

