The Next Generation of the Montage Image Mosaic Engine
http://montage.ipac.caltech.edu
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Montage Version 4: Mosaics of Data Cubes, Visualization in Python and More

• Five new modules dedicated to building mosaics of data cubes.
• Command-line visualizer and Python wrapper for FITS images.
• Released with a BSD 3-clause license on GitHub on Oct. 1, 2015.
• Version 4.0 inherits the architectural benefits of earlier versions:
  o Scalable ANSI-C toolkit for creating science-grade image mosaics.
  o Portable across all Unix platforms.
  o Utilities for managing and analyzing FITS files and their metadata.

Data Cube Mosaics: Montage at Scale

Galactic Arecibo L-band Feed Array HI (GALFA-HI) Survey. 21-cm maps of neutral hydrogen near the Milky Way. 40° x 40° area.

Full GALFA DR-1 data set processed on the Amazon Elastic Cloud 2. Cheap processing, but storage more expensive.

How The Community Is Using Montage

Peer-reviewed citations


Montage Use Case:
Co-registration of images in Lincoln Near Earth Asteroid Research Program (LINEAR)

• Example detection of a moving object
• Sky coverage April 2015 - November 2014

Community take-up

4.7 million calibrated SDSS DR9 images with WCS headers, created by Montage, accessible for mosaicking.

M78: SDSS DR9 mosaic in u, r, z

17 projects have incorporated Montage into their environments or pipelines, including SWIRE, SINGS, IPHAS, AplPy...

GLIMPSE360 used Montage as an image re-projection engine.