

# Montage Characterization

## Montage

Montage has been created by the NASA/IPAC Infrared Science Archive as an open source toolkit that can be used to generate custom mosaics of the sky using input images in the Flexible Image Transport System (FITS) format. During the production of the final mosaic, the geometry of the output is calculated from the geometry of the input images. The inputs are then re-projected to be of the same spatial scale and rotation. The background emissions in the images are then corrected to be of the same level in all images. The re-projected, corrected images are co-added to form the final mosaic. The Montage application has been represented as a workflow that can be executed in Grid environments such as the TeraGrid.

## Execution Profile

Execution times of Montage jobs			
Job	Count	Mean (s)	Variance
mConcatFit	1	13.6	0
mBgModel	1	10.88	0
mAdd	1	30.34	0
mDiffFit	107	10.59	0.01
mJPEG	1	10.96	0
mShrink	1	12.26	0
mImgTbl	1	10.69	0
mProjectPP	45	13.59	0.06

Sizes of Montage data items			
File Type	Count	Mean (MB)	Variance
shrunken_mosaic.fits	1	6.6	0
shrunken_mosaic.jpg	1	0.32	0
template.hdr	1	0.00029	0
2mass.fits	45	4	0
p2mass.fits	45	4	0.0001
p2mass_area.fits	45	4	0.0001
c2mass.fits	45	4	0.0001
c2mass_area.fits	45	4	0.0001
fit	107	0.00026	9e-11
diff	107	0.27	0.02
diff_area	107	0.27	0.02
cimages.tbl	1	0.0072	0
corrections.tbl	1	0.0023	0
fit_list.tbl	1	0.0028	0
fits.tbl	1	0.021	0
new-cimages.tbl	1	0.012	0
pimages.tbl	1	0.0072	0
mosaic.fits	1	165.43	0