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# MAST Data Discovery Portal

The new website for accessing MAST data

Tom Donaldson

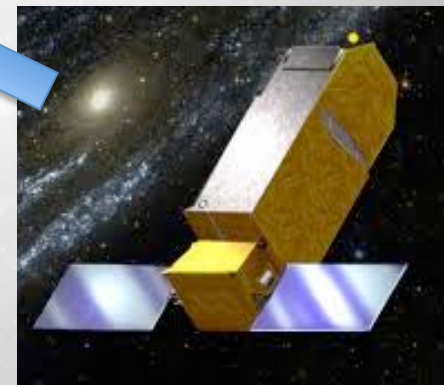
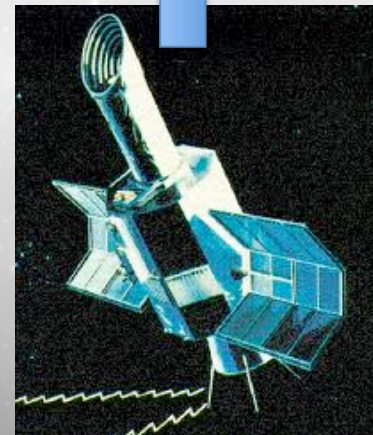
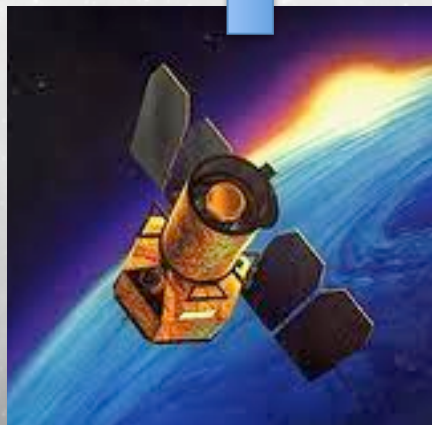
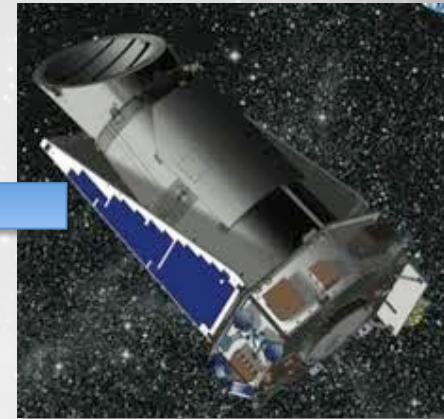
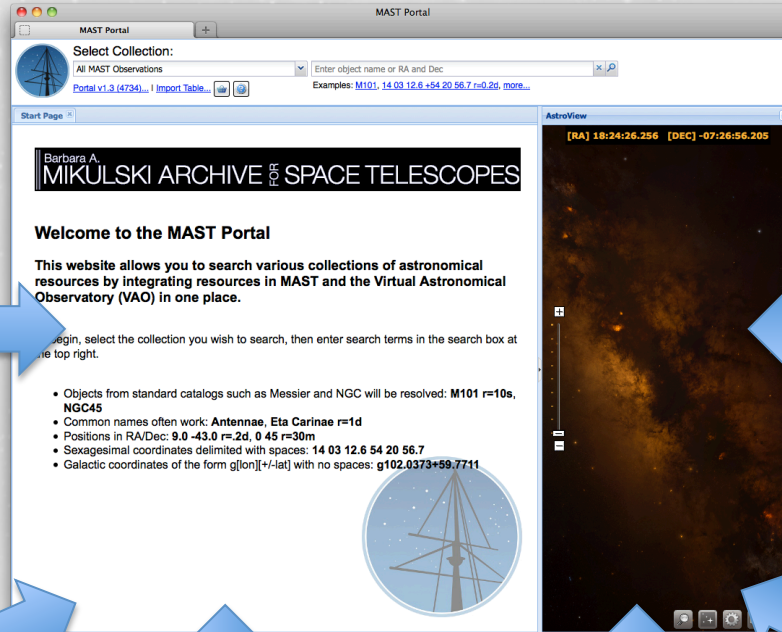
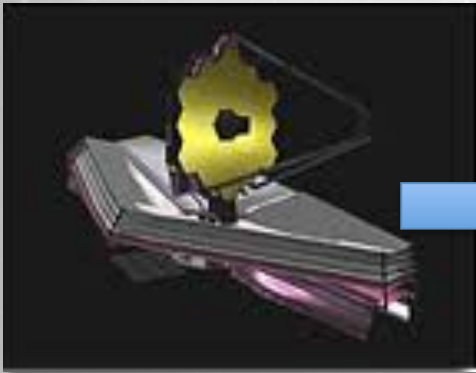


# Consolidate all MAST data holdings

Single UI built on the success of HLA and GalexView

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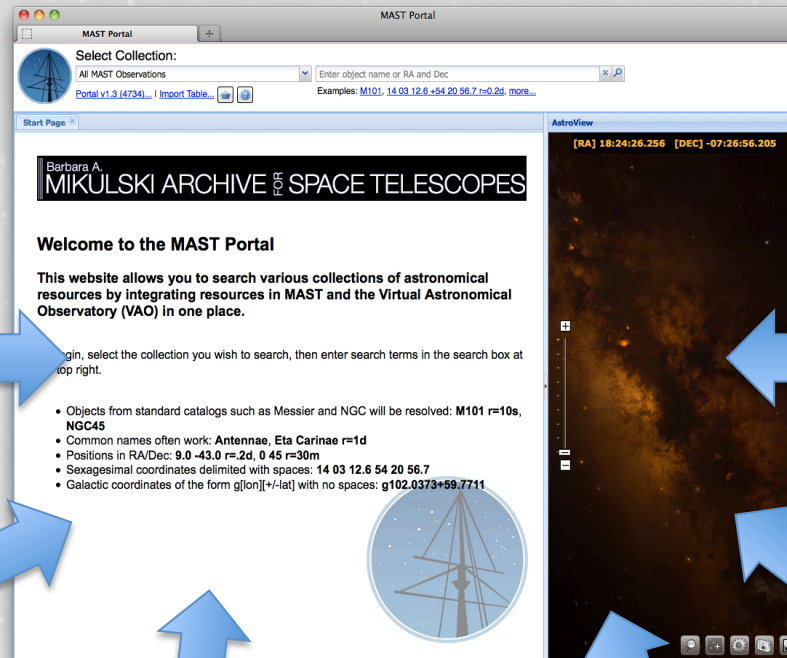


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# Collaborate With VAO

Access Virtual Observatory for Multi-Wavelength Search and Discovery





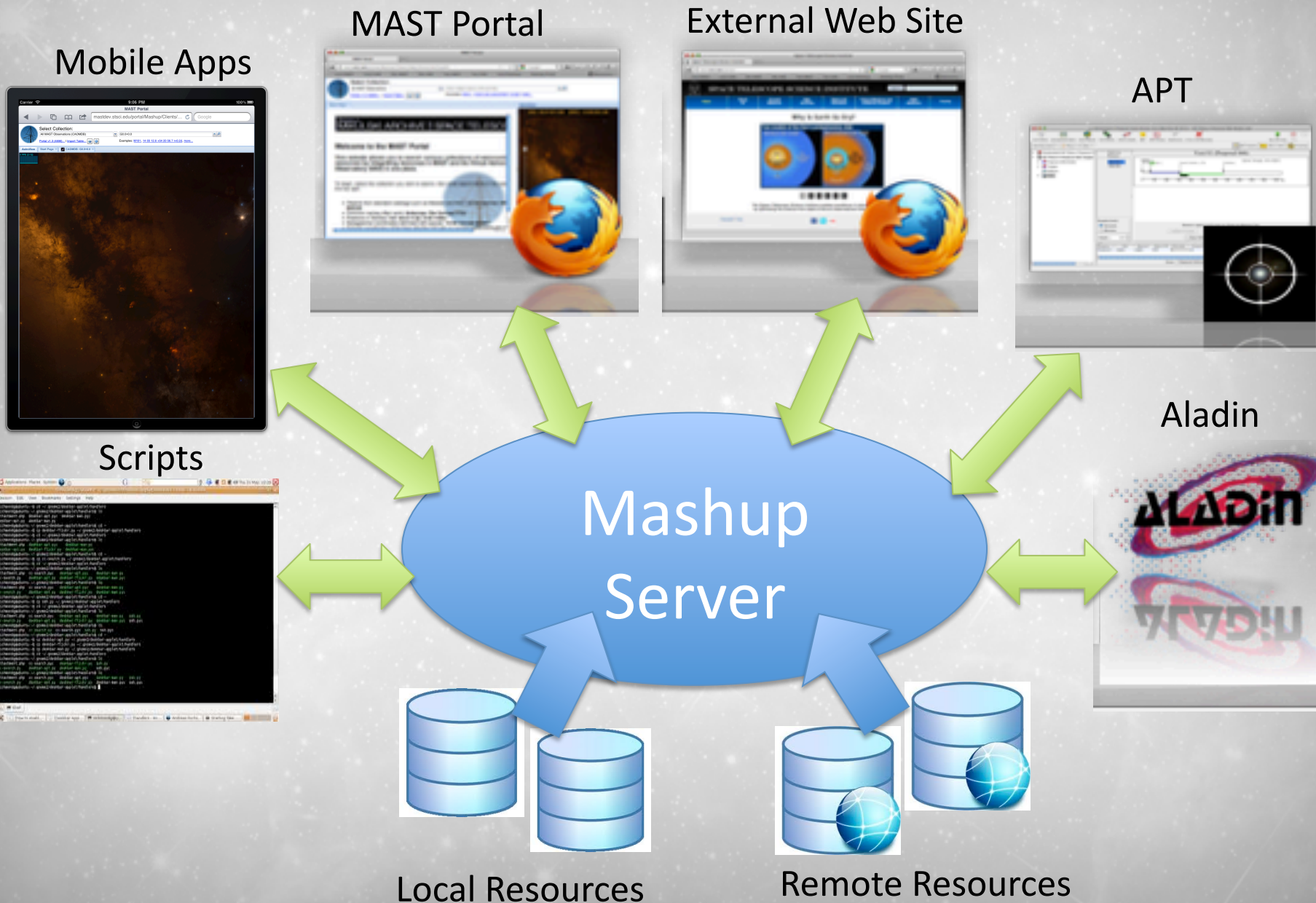


# Flexible and Extensible Infrastructure

Single server can support multiple clients, while accessing local and remote resources

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# Demo: <http://mast.stsci.edu/explore>

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Select Collection:  
All Virtual Observatory Collections andromeda  
Portal v1.3 (4734)... Import Table...  
Examples: [M101](#), [14 03 12.6 +54 20 56.7 r=0.2d](#), [more...](#)

CAOMDB: andromeda andromeda: 2MASS-PSC

Displaying 101 of 763 Total Rows AstroView Controls Display All Color Export Table As... M 31 (RA: 00:42:44.330, [RA] 00:43:39.072 [DEC] +41:31:40.270)

Preview	Instrument	Target Name	Observation ID	RA
1	LWP	NEAR S AND	lwp15819	00:42
2	LWP			00:42
3	LWP			00:42
4	LWP			00:42
5	ACS/ACS/WFC	M31-BH3	HST_10006_03_ACS_WFC_F435W	00:42

**Details: CAOMDB: andromeda - M31-BH4**

**Summary**

**M31-BH4**

Publisher: STScI/MAST  
Collection: HLA  
Instrument: ACS/ACS/WFC  
Obs ID: HST\_10760\_04\_ACS\_WFC\_total

Expand for Details

AstroView

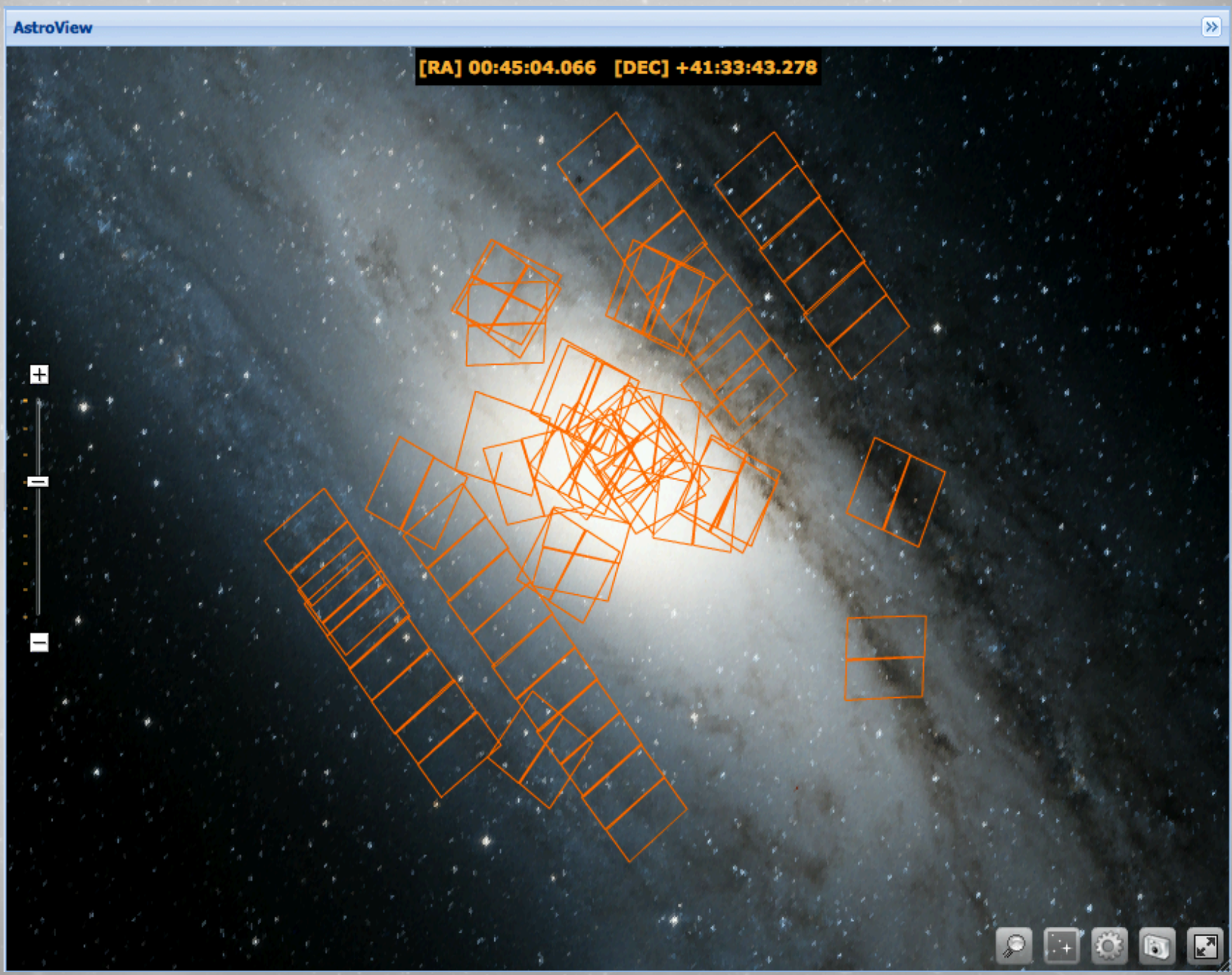




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# All-Sky Visualization





# Displays for Images, Catalogs, Spectra



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Select Collection:  
All Virtual Observatory Collections | andromeda  
Portal v1.3 (4734)... | Import Table...  
Examples: [M101](#), [14 03 12.6 +54 20 56.7 r=0.2d](#), [more...](#)

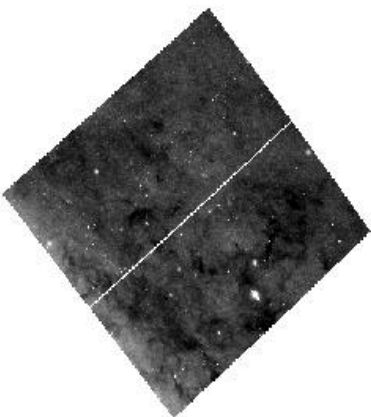
CAOMDB: andromeda | andromeda: 2MASS-PSC  
Displaying 101 of 763 Total Rows | AstroView Controls | Display All | Color | Export Table As... | M 31 (RA: 00:42:44.330)

Table View | Album View

Preview	Instrument	Target Name	Observation ID	RA
	LWP	NEAR S AND	lwp15819	00:42:44.330
	LWP			00:42:44.330
	LWP			00:42:44.330
	LWP			00:42:44.330
	ACS/ACS/WFC	M31-BH3	HST_10006_03_ACS_WFC_F435W	00:42:44.330

Details: CAOMDB: andromeda - M31-BH4

Summary



Publisher: STScI/MAST  
Collection: HLA  
Instrument: ACS/ACS/WFC  
Obs ID: HST\_10760\_04\_ACS\_WFC\_total

Expand for Details

AstroView  
[RA] 00:43:39.072 [DEC] +41:31:40.270





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# Filters for Narrowing Results

The screenshot displays the CAOMDB: andromeda interface. The main window shows a list of filters for narrowing search results. The 'Instrument' filter is expanded, showing a list of instruments with their respective counts. The 'Principal Investigator', 'Waveband', 'RA', and 'Dec' filters are also visible. The 'Dec' filter includes a histogram and a range slider.

**CAOMDB: andromeda** (x)

Displaying **45** of 763 Total Rows AstroView Controls

**Filters**

Clear Filters Edit Facets... Help...

Filter All Record Fields (x)

**Instrument**

- ACS/ACS/HRC (0 of 23)
- ACS/ACS/SBC (0 of 2)
- ACS/ACS/WFC (41 of 97)
- FUV (0 of 4)
- GALEX (0 of 82)
- LWP (4 of 4)
- LWR (0 of 12)
- SWP (0 of 11)
- WFPC2/PC (0 of 252)
- WFPC2/WFPC2 (0 of 276)

**Principal Investigator**

**Waveband**

**RA**

**Dec**

**AstroView** (x)

[RA] 00:43:42.382 [DEC] +41:30:39.846

http://mast.stsci.edu/portal/Ma...lients/Mast/Portal.html?useAV#





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# Astronomer's Desktop

MAST Portal

masttest.stsci.edu/portal/Mashup/Clients/dt/desktop.html

Search

Select Collection: All MAST Observations AM 0500-620

User Guide | Demo Portal v1.3... | Upload File... Examples: M101, Mikulski, 14 03 12.6 +54 20 56.7 r=0.2d, more

ST Press Releases

147 Total Rows

Preview	Title	Description
	Hubble Interacting Galaxy 2MASX J09133888-1019196	2MASX J09133888-1019196 comprises both disturbed by gravitational interaction approximately 130,000 light-years - suggesting beginning to merge. Together the two galaxies form a highly unusual system, which is unusual for the possible explanation is that the one or both galaxies experienced a merger or interaction. Given both galaxies, which are found in the constellation of Serpens, about 700 million light-years away.
	AM 0500-620	AM 0500-620 consists of a highly symmetric spiral galaxy seen nearly face-on and partially backlit by a background galaxy. The foreground spiral galaxy has a number of dust lanes between its arms. The background galaxy was earlier classified as an elliptical galaxy, but Hubble has now revealed a galaxy with dusty spiral arms and bright knots of stars. AM0500-620 is 350 million light-years away from Earth in the constellation of Dorado, the Swordfish.
	Hubble Interacting Galaxy AM 0702-601	AM 0702 consists of two galaxies only just beginning to interact in the galaxy or starting to experience a merger.
	Hubble Interacting Galaxy AM 1316-241	AM 1316-241 is a pair of galaxies (the left of the frame). The stars in the foreground galaxy are seen through the dust lanes of the background galaxy. The Hubble Space Telescope dust confined to the foreground galaxy light from the background galaxy is seen through the atmosphere of Earth about 130 million light-years away.
	Hubble Interacting Galaxy Arp 220	Arp 220 appears to be a pair of galaxies in the process of merging.

AstroView

[RA] 05:00:40.849 [DEC] -62:04:10.238

VO Space

Expand for Details

Files

- Expand All Collapse All
- Tom
  - Images
    - M51.fits
    - M104.fits
  - Catalog
    - 2MASS-M51.vot
    - 2MASS-M51.csv
  - Publications
  - Notes

Start Search ST Press Releases AstroView VO Space 8:38 PM





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# Future Plans

- Incrementally Replace MAST Web Pages
  - Cross Mission Search
  - GalexView
  - HLA
- Mission Specific Search Tools
  - StarView: Form-based Query Builder for HST
  - JWST SID Archive: Instrument Test Data for JWST
  - Custom Keyword Search
- Other
  - Citizen Science
  - Mobile Interface
  - Single Sign On Support
  - Astronomer's Desktop





# Feedback

- We plan to work closely with archive users to make this tool as useful as possible.
- If interested in sharing ideas on features or trying out the interface as it evolves, please contact us:
  - Tom Donaldson ([tdonaldson@stsci.edu](mailto:tdonaldson@stsci.edu))
  - Tony Rogers ([rogers@stsci.edu](mailto:rogers@stsci.edu))
  - Geoff Wallace ([gwallace@stsci.edu](mailto:gwallace@stsci.edu))
  - Karen Levay ([klevay@stsci.edu](mailto:klevay@stsci.edu))
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    - Theresa Dower
    - Dean Hinshaw

