



**MAST**  
**Users**  
**Group**  
**Meeting**

**January**  
**14-15,**  
**2016**

# MAST Discovery Portal Updates

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# New Features

Worked with designer to improve usability

- Conducted usability study
- Identified problem areas
- Implemented several improvements
  - Entry page emphasizes how to find features and documentation
  - Feedback button prominently placed
  - Cleaner filter panel layout makes it easier to find and use filter features
  - Numerous new icons



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# New Features (2)

- Hubble Source Catalog integration
- Crossmatch
  - MAST observations
  - Catalogs (currently HSC, GALEX, SDSS, 2MASS)
- Spectral viewer
- Timeseries viewer
- Preview images as cutouts
- Centralized web logging and analytics



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# New Features (3)

## Centralized web logging and analytics

Country [Date:Host:Service:Group:Ip] 4m ago

IP Map [Date:Host:Service:Group:Ip] 4m ago

IP Location [Date:Host:Service:Group:Ip] 4m ago

ip	City	Region	Country	count
130.167.250.34	Baltimore	Maryland	United States	3939
195.251.202.30	Athens	Attica	Greece	800
128.177.89.240			United States	709
71.163.9.235	Laurel	Maryland	United States	555
63.252.64.207	Urbana	Illinois	United States	450
130.167.231.76	Baltimore	Maryland	United States	390
203.64.45.131	Taipei	Taipei	Taiwan	377
73.170.8.29			United States	370

OS | Browser | Mobile [Date:Host:Service:Group:Ip] 4m ago

OS	Browser	Mobile	count	percent
Mac OS X	Chrome	False	6981	16.803466
Mac OS X	Safari	False	6715	16.163197
Mac OS X	Firefox	False	4925	11.854615
Other	Other	False	3941	9.486099
Windows 7	Chrome	False	3905	9.399446
Windows 8.1	Chrome	False	2612	6.287159
Ubuntu	Firefox	False	2233	5.374895
Windows 7	Firefox	False	2231	5.370081
Linux	Chrome	False	1761	4.238777
Linux	Firefox	False	1494	3.596101

REQUEST Service [Date:Host:Service:REQUEST:Ip] 4m ago

service	count	percent
Mast.Name.Lookup	23598	35.428177
Mast.Caom.Cone	13850	20.793298
Vo.Hesarc.DatascopeListable	12517	18.792037
Mast.Caom.Products	4350	6.530747
Mast.Hsc.Db	3785	5.682501
Mast.Distribution.Request	3749	5.628453
Caom.Cone.Votable	1320	1.981744
Mast.HscMatches.Db	828	1.243094
Mast.Caom.Crossmatch	562	0.843742
Vo.Generic.Table	470	0.705621
Mast.Hsc.Crossmatch	294	0.441388



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# New JWST Features

- Delivered for JWST DMS Build 5:
  - User authentication using STScI SSO
  - Integrated with new distribution mechanism
    - Direct URL access to all JWST data
    - Access authorized based on logged in user
  - Advanced observation search
    - Search by Mission, Instrument, Exposure Time, etc.
- ❖ These features will be deployed for all missions this year.



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# Future Work

- Public release of JWST features
  - Most notably direct access to all archive observation data files
- Integration with new missions
  - JWST (ongoing)
  - Pan-STARRS
  - TESS
- Digital Object Identifier (DOI) support



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# Demo


[mast.stsci.edu](http://mast.stsci.edu)



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# Hubble Source Catalog



Select a collection... and enter target:

Hubble Source Catalog (HSC)

[About Collections...](#) [Show Examples...](#) [Random Search](#)

anonymous

[Login...](#)

[Account Info...](#)

Upload Target List

My Download Basket: 3 files

[User Manual/Help](#) | [Leave Feedback](#) | [About This Site](#)

Home Page
HSC: eta car
HSC Matches: 5783994

8 Total Rows

Footprints: All ■

**List of Measurements**

Edit Columns... Table Display: All

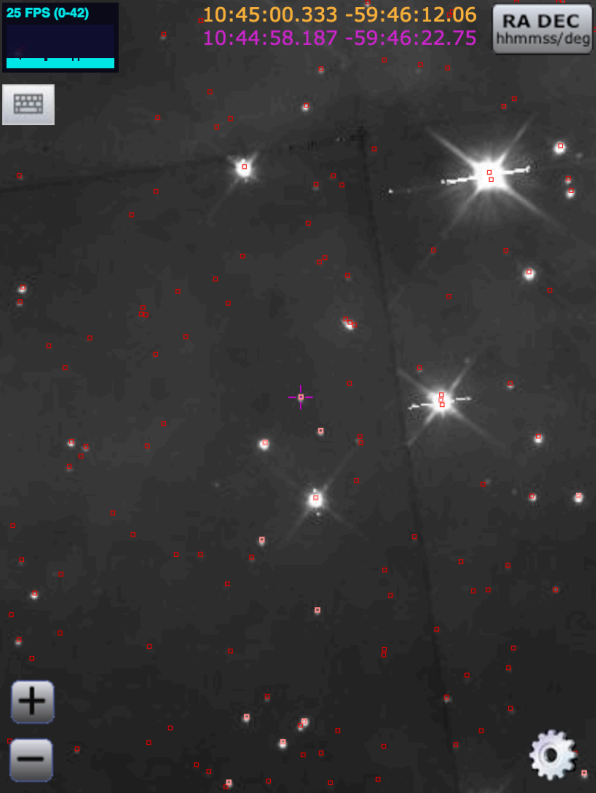
	Actions	Preview	Source RA	Source Dec	ImageName
<input type="checkbox"/>	  		161.2424473129...	-59.77298635059...	hst_09318_de_wfpc2...
<input type="checkbox"/>	  		161.2424486683...	-59.77298854073...	hst_09318_cm_wfpc2...
<input type="checkbox"/>	  		161.2424486683...	-59.77298854073...	hst_09318_cm_wfpc2...

**AstroView**

25 FPS (0-42)
10:45:00.333 -59:46:12.06

RA DEC  
hhmmss/deg

10:44:58.187 -59:46:22.75







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# Crossmatch

**Cross-Match (Select catalog from list below)**

Catalog	Description
MAST	Mikulski Archive For Space Telescopes
All Observations	Observations from all MAST Missions (HST, GALEX, KEPLER, etc.)
HSC	Hubble Source Catalog (v1.0)
GALEX	GALEX (GR6+7) Source Catalog from all Surveys (AIS, DIS, MIS)
SDSS	Sloan Digital Sky Survey (DR12) Source Catalog
2MASS	Two Micron all Sky Survey (2MASS) Catalog
CDS	Strasbourg astronomical Data Center
SIMBAD	SIMBAD Astronomical Database
2MASS	2MASS All-Sky Catalog of Point Sources (Cutri+ 2003)
2MASS6X	2MASS 6X Point Source Working Database / Catalog (Cutri+ 2006)
CFHTLS Deep	The CFHTLS Deep Survey, fields D1--D4: (T0007 release) (Hudelot+ 2012)
CFHTLS Wide	The CFHTLS Wide Survey, fields W1--W4: (T0007 release) (Hudelot+ 2012)
CMC14	Carlsberg Meridian Catalog 14 (CMC14) (CMC, 2006)
DENIS	The DENIS database, 3rd release (DENIS Consortium, 2005)
GALEX GR5 AIS	GALEX-DR5 (GR5) sources from AIS (All-sky Imaging Survey) (Bianchi+ 2011)
GALEX GR5 MIS	GALEX-DR5 (GR5) sources from MIS (Medium-depth Imaging Survey) (Bianchi+ 2011)
GLIMPSE	GLIMPSE Source Catalog (I + II + 3D) (IPAC 2008)

Catalog:

Radius ("):



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# Cutout Preview Images

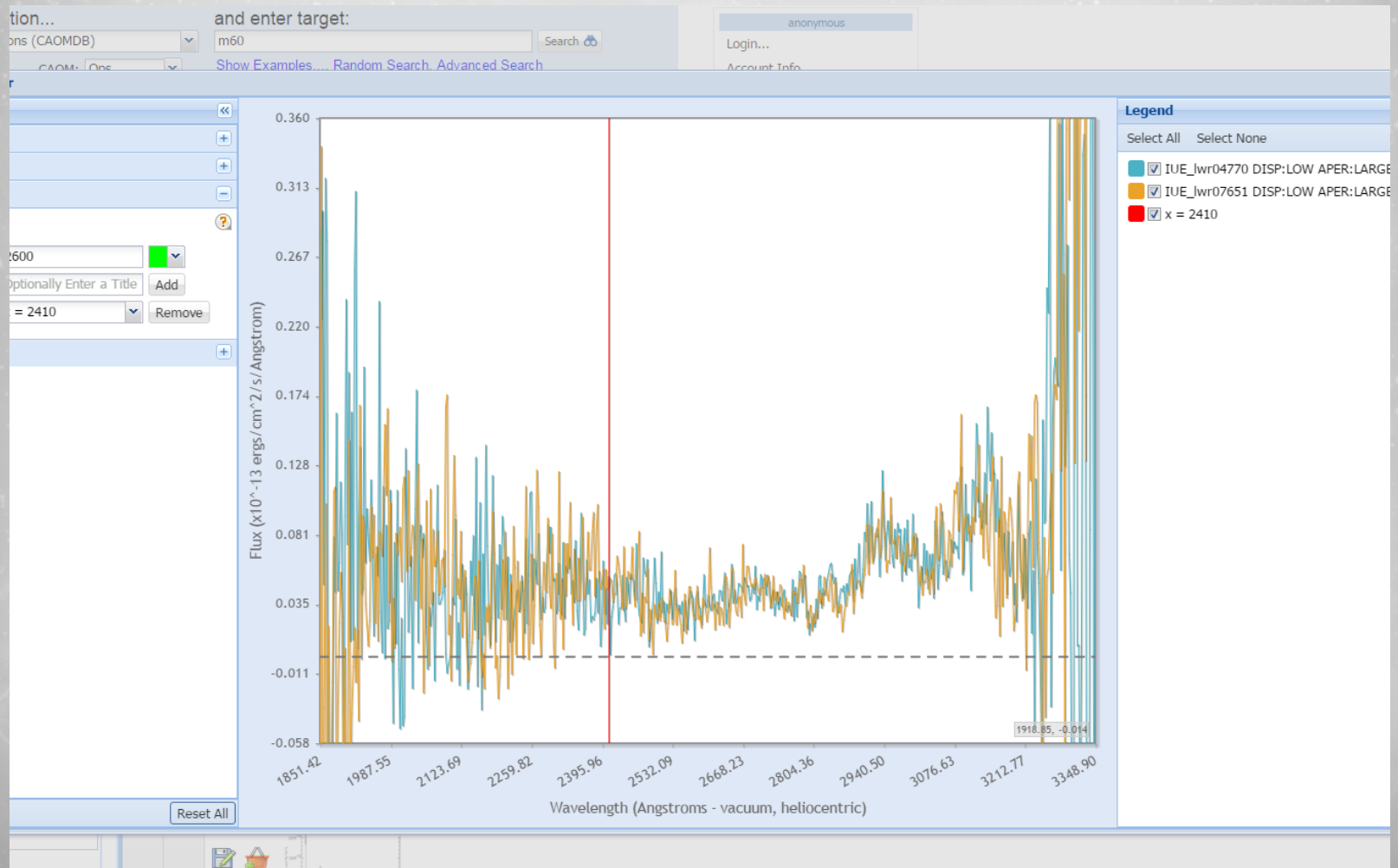
<input type="checkbox"/>		Actions	<input type="radio"/> Preview <input checked="" type="radio"/> Cutout	Mission ▾
<input checked="" type="checkbox"/>	1			HST
<input checked="" type="checkbox"/>	2			HST
<input checked="" type="checkbox"/>	3			HST
<input checked="" type="checkbox"/>	4			HST



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# Spectral Viewer

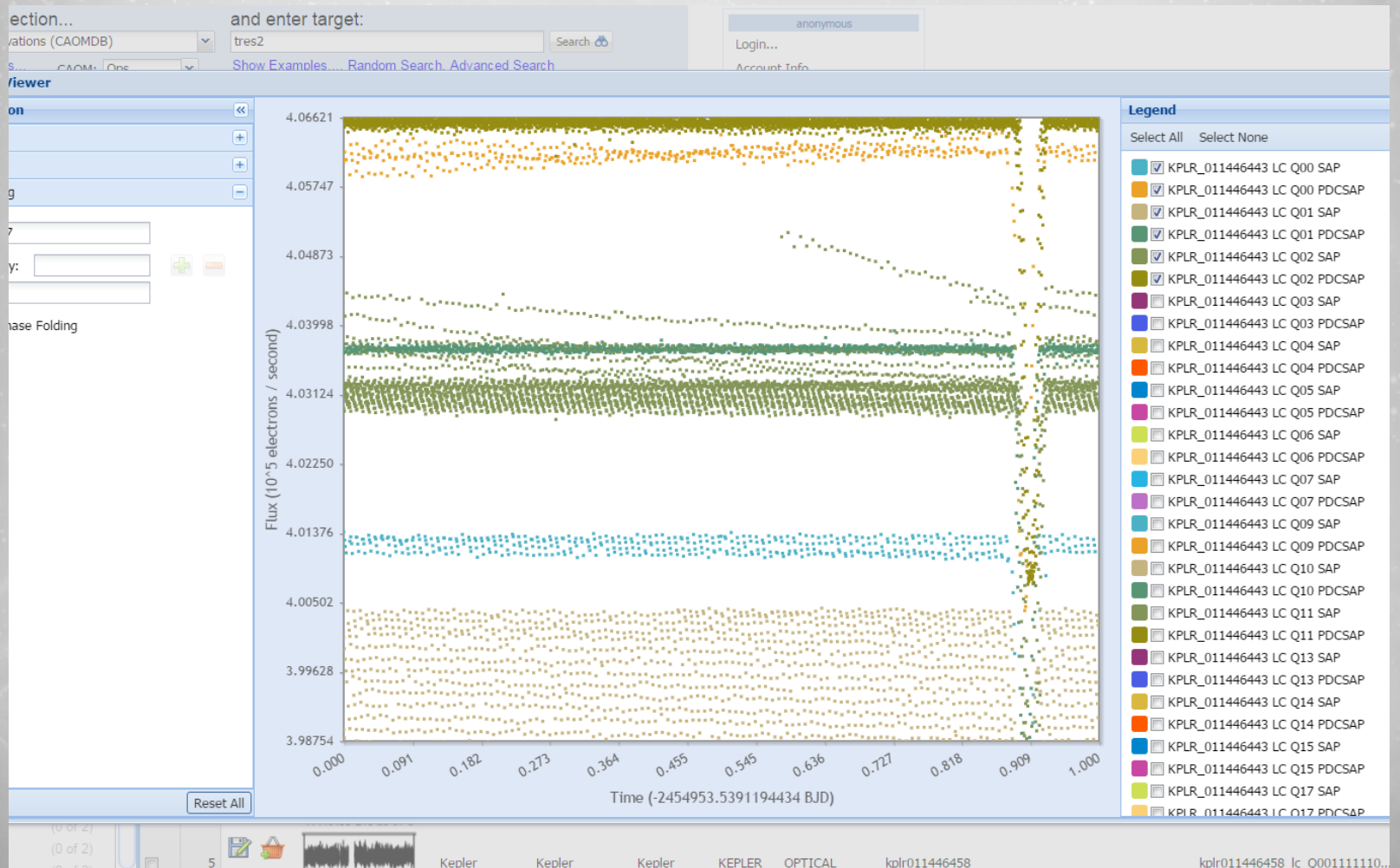




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# Timeseries Viewer





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# Advanced Search

**MAST Advanced Search**

Records Found: 74

**Applied Filters**

Mission: HST Product Type: image Instrument: ACS/WFC Filters: F475W Target Classification: STAR

**Columns** Defaults Hide All Clear All

**Primary Columns**

- Mission
- Product Type
- Waveband
- Instrument
- Filters
- Target Classification
- Target Name
- Exposure Time
- Start Time

**Secondary Columns**

- Calibration Level
- Observation ID
- RA
- Dec
- End Time
- em\_min
- em\_max
- Observation Title
- Release Date

**Filters**

**Mission**

Name	Quantity
<input checked="" type="checkbox"/> HST	(719296 Total)
<input type="checkbox"/> GALEX	(330914 Total)
<input type="checkbox"/> Kepler	(212993 Total)
<input type="checkbox"/> SWIFT	(190399 Total)
<input type="checkbox"/> K2	(170522 Total)

Show 9 More

**Product Type**

Name	Quantity
<input checked="" type="checkbox"/> image	(814621 Total)
<input type="checkbox"/> spectrum	(540646 Total)
<input type="checkbox"/> timeseries	(336801 Total)
<input type="checkbox"/> cube	(46714 Total)

**Waveband**

Name	Quantity
<input type="checkbox"/> OPTICAL	(954020 Total)
<input type="checkbox"/> UV	(710900 Total)
<input type="checkbox"/> INFRARED	(134563 Total)
<input type="checkbox"/> EUV	(1686 Total)

**Instrument**

Name	Quantity
<input type="checkbox"/> ACS/HRC	(23264 Total)
<input type="checkbox"/> ACS/SBC	(4770 Total)
<input checked="" type="checkbox"/> ACS/WFC	(60997 Total)
<input type="checkbox"/> ASTRO-1 WUPPE	(41 Total)
<input type="checkbox"/> ASTRO-2 WUPPE	(197 Total)

Show 32 More

**Filters**

Name	Quantity
<input type="checkbox"/> F150W	(3081 Total)
<input type="checkbox"/> F439W	(5728 Total)
<input type="checkbox"/> F450W	(1053 Total)
<input type="checkbox"/> F467M	(360 Total)
<input type="checkbox"/> F469N	(18 Total)
<input type="checkbox"/> F470M	(4367 Total)
<input checked="" type="checkbox"/> F475W	(4367 Total)

Show Fewer

**Target Classification**

Name	Quantity
<input checked="" type="checkbox"/> STAR	(153580 Total)
<input type="checkbox"/> GALAXY	(100063 Total)
<input type="checkbox"/> UNIDENTIFIED	(89789 Total)
<input type="checkbox"/> PARALLEL FIELD	(80935 Total)
<input type="checkbox"/> SOLAR SYSTEM	(31439 Total)

Show 1126 More

**Target Name** **Exposure Time** **Start Time**