



STScI | SPACE TELESCOPE
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

Panel Slides

MUG Jan 2018



HST Consolidated Pipeline – J. Hargis



HST Consolidated Pipeline Project

The HST Consolidated Pipeline project aims to eliminate concurrent data processing at the HST Archive Partner sites (at ESAC and CADC). All sites will store identical STScI pipeline products and associated metadata.

- Planned completion in late April 2018 (started early Fall 2017)
- Network speeds should support ~2 TB/day data transfer rates
- Two primary services developed by STScI:
 - Discovery and retrieval of observational metadata via RESTful web service
 - Transfer of files via HTTP
- STScI has completed majority of our work. Partners are now doing end-to-end testing.
- The adoption of a common database model (CAOM) has been critical.
- STScI staffing: 2-4 FTE of effort. Similar levels at CADC and ESAC.

The background of the image is a deep blue and black starry sky. A large, diffuse nebula with wispy, ethereal structures in shades of blue, purple, and brownish-gold is visible on the left side. Numerous bright stars of varying colors, including blue, white, and yellow, are scattered across the field of view. A thin, horizontal orange line spans the width of the image, positioned just below the text.

Subscription Service - O. Oberdorf



Subscription Service

- Primary Investigators (PIs) are automatically subscribed for notification when data for their program is archived.
- Users can subscribe for notification of new data, reprocessed data and when data become public.
- Users can choose proposal and even specific observations
- Notification are sent via mail or can be viewed online at a preferred cadence.

The screenshot shows a dialog box titled "Create New Subscriptions" with a close button (X) in the top right corner. The dialog is divided into two main sections: "General Subscription Options" and "Subscriptions to Create".

General Subscription Options:

- Notification Type: Email (dropdown menu)
- Notification Frequency: Fast (dropdown menu)

Subscriptions to Create:

#1

- Mission: HST (dropdown menu)
- Subscription Type:
 - New
 - Reprocessed
 - Public
- Select One or More to Include:
 - Proposal ID: 15073 (text input)
 - Observation ID: (text input)
 - Observation Set: (text input)

At the bottom of the dialog, there is a green plus sign (+) on the left and "Cancel" and "Save" buttons on the right.



Subscription Service

Browser tabs: (1) Things Karen does or faci... MAST Portal DMS Staffing 2018 - Data Ma... MAST Portal HSTGSR_DMS.pptx | Powerec Karen

Address bar: Secure | https://mast.stsci.edu/portal/Mashup/Clients/Mast/Portal.html

Navigation: Apps BOX JIRA Confluence ITSD Service Portal... STSci Links Journals sim/ned ADS MAST archtest archdev Schema Explorer Other Bookmarks

Search area: Select a collection... and enter target:
MAST Observations by Object Name or RA/Dec [dropdown] Enter object name or RA and Dec to cone search [input] Search [button]
[About Collections...](#) [Show Examples...](#) [Random Search](#) [Advanced Search](#)

Buttons: Upload Target List My Download Basket: 0 files User Manual/Help | Leave Feedback | About This Site

User menu: Levay Login... Account Info... Subscriptions...

Home Page Subscriptions [x]

Actions: Refresh Edit Delete

	Actions	Mission	Proposal ID	Observation ID	Observation Set	Data Level	Status	Notification Ty...	Frequency	Subscription T...
1	[edit] [stop] [delete]	HST	15073				Active	Email	Fast	New
2	[edit] [stop] [delete]	HST	15073				Active	Email	Fast	Public
3	[edit] [stop] [delete]	HST	15073				Active	Email	Fast	Repro

Buttons: Add Help AstroView

Annotations:

- Cloud 1: Manage existing subscriptions (points to the table)
- Cloud 2: Add New Subscription (points to the Add button)
- Cloud 3: User menu (points to the user profile)



Subscription Service



Select a collection... and enter target:

MAST Observations by Object Name or RA/Dec

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

Upload Target List **My Download Basket:** 66 files [User Manual/Help](#) | [Leave Feedback](#) | [About This Site](#)

Oberdorf

[Account Info...](#)

[Subscriptions...](#) 7

Notifications
Alerted

Actions	Date	Subject	Body
<input type="checkbox"/>	6:06 PM Tue, 24 October, 2017	JWST: new observations for proposal(s) 82600 are ...	Dr. Oberdorf, The purpose of this email is to inform you that new observations for propos...
<input checked="" type="checkbox"/>	5:05 PM Tue, 24 October, 2017	JWST: new observations for proposal(s) 826...	Dr. Oberdorf, The purpose of this email is to inform you that new observations for propos...
<input checked="" type="checkbox"/>	1:01 PM Fri, 01 September, 2017	Subject	This is the Body
<input checked="" type="checkbox"/>	1:01 PM Fri, 01 September, 2017	Reprocessing Complete	Blah blah reprocessing happened on this thing that you subscribed to
<input checked="" type="checkbox"/>	1:01 PM Fri, 01 September, 2017	Reprocessing Complete	Blah blah reprocessing happened on this thing that you subscribed to
<input checked="" type="checkbox"/>	1:01 PM Fri, 01 September, 2017	New Data	Another message about new data coming in on a subscribed observation
<input checked="" type="checkbox"/>	1:01 PM Fri, 01 September, 2017	Observations for proposal(s) P1 P2 P3 are ar...	Dr. Tyson, The purpose of this email is to inform you that all observations for the following P...
<input checked="" type="checkbox"/>	1:01 PM Fri, 01 September, 2017	New Data	Something about new data coming in on some observation

Notification Web
Interface built
right into MAST



Subscription Service

2017 JWST: new observations for proposal(s) 82600 are ... Dr. Oberdorf,

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View Notification Details

the JWST archive.

You must be authorized to retrieve data that is proprietary, even if you are the PI for that proposal. You can get authorized by sending email to the archive helpdesk at archive@stsci.edu.

You can retrieve your data by accessing the WWW below:

Links to Data
Directly

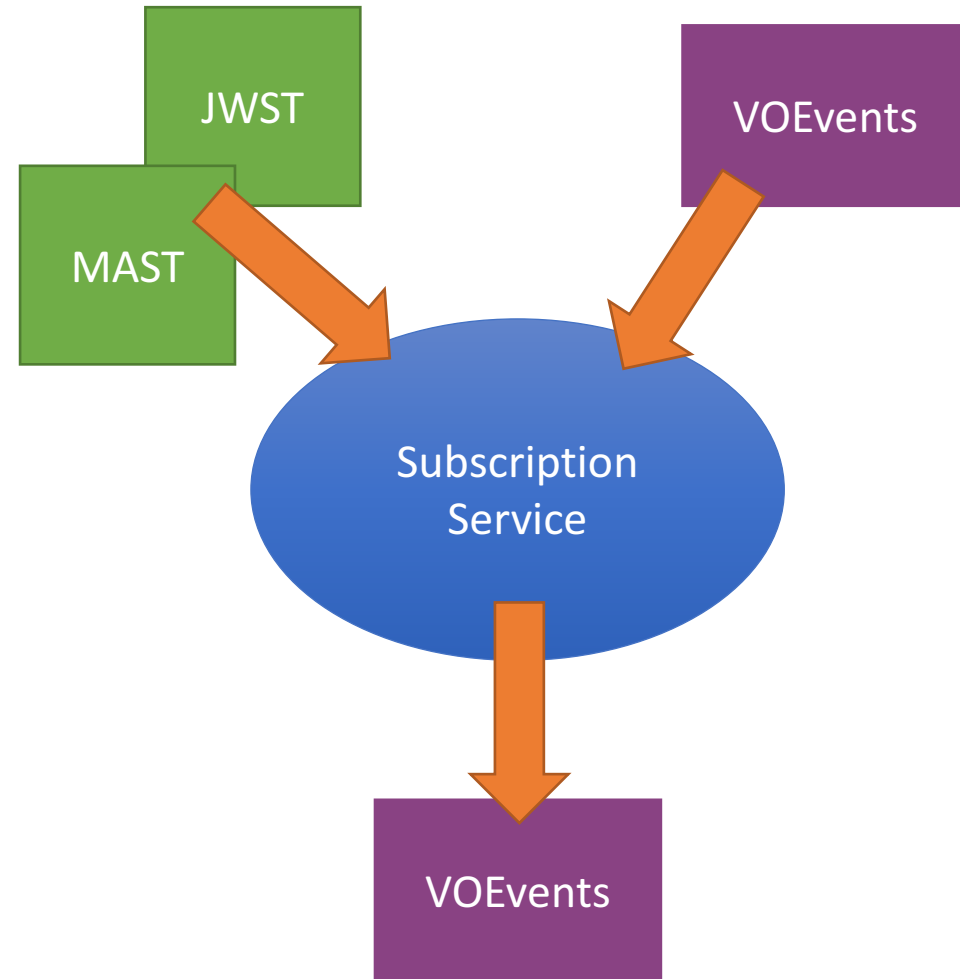
[Proposal 82600](#)



Subscription Service

Future Ideas

- Download or Send to Basket directly from Notifications
- Support non-ST Missions (using VOEvents)
- Grid-like Notifications (columns for proposal id, etc)
- RSS feed delivery (3rd Notification Type)
- VOEvent Output
- Notify when data are published





JWST Builds- L. Quick



JWST Build 7.1

JWST Build 7.1

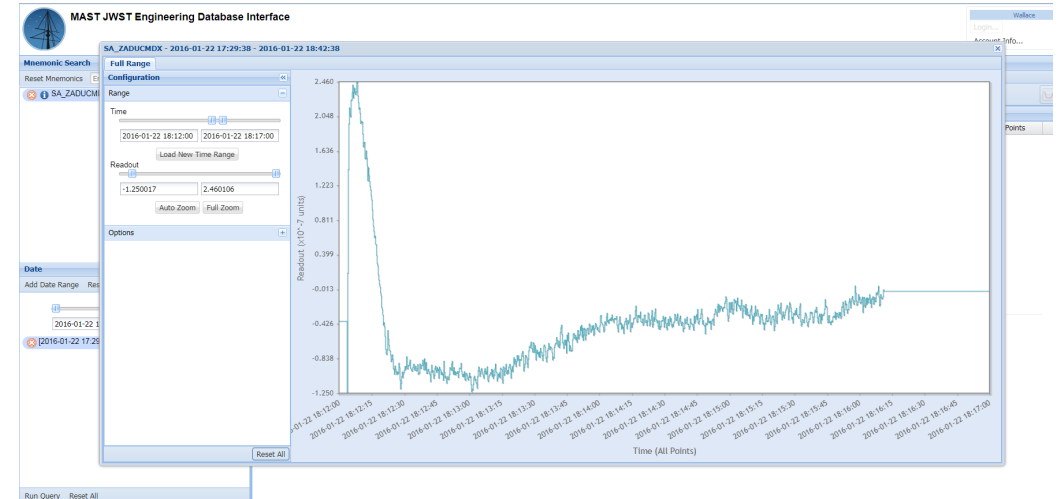
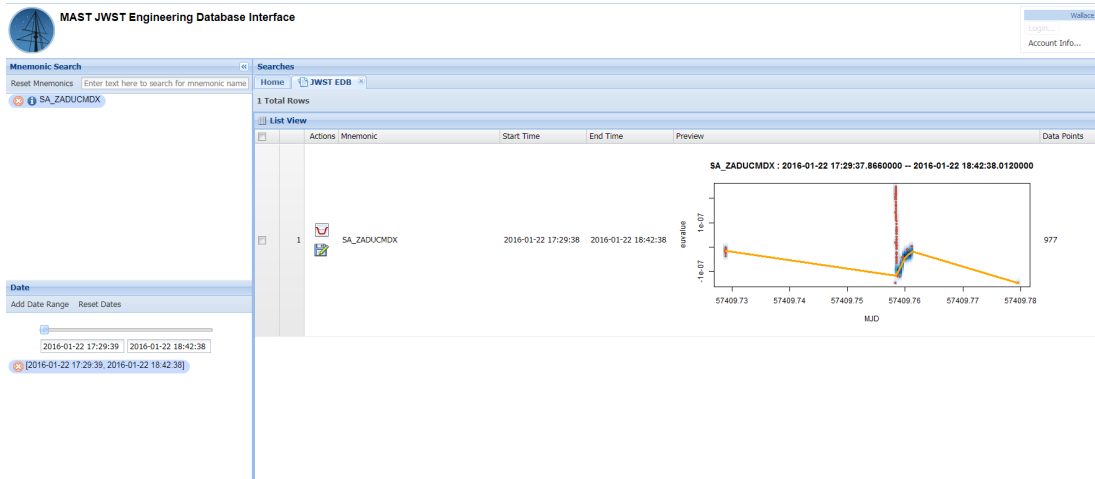
- Archive User Interface
 - Subscription Service Interface
 - ▶ This new feature allows the user to create, modify and view the details of a subscription to a program, observation or dataset. Users can receive information about a subscription by email and interface status.
 - WSS (Wavefront Sensing Software) Interface
 - ▶ This interface allows users to access WSS OPD (Optical Path Difference) files through the AUI.
 - AUI has the capability to identify parallel science observations
 - Community contributed High Level Science Products (Level 4) data are available through the AUI



JWST Build 7.1

JWST Build 7.1

- Archive User Interface
 - Engineering Data Interface
 - ▶ DMS has a database of spacecraft engineering parameters with data points collected over time.
 - ▶ Data are searchable via mnemonic of interest and a time range.





Website Redesign – K. Levay



Website Redesign

- MAST website redesign is linked with total STScI webdesign project. Using the same content management system (Jahia) and the same modules and feature types.
- Progress slowed because we were using the same consulting group and MAST work given a lower priority and there have been schedule slips
- MAST hired a UX/UI staff member hired Dec 2017, so we now have dedicated design staff for the project
- Developers on parental leave, so final development push will begin this spring
- Content to migrated being identified and rewritten as needed during the next three months
- Question: Some content documents the mission but not the data. Mission content exists no where else. Inclined to save it archivally but not at highest priority. Agree?



Website Redesign – Mission landing page

HOPKINS ULTRAVIOLET TELESCOPE (HUT)

MAP OF OBSERVATIONS

HUT flew on the ASTRO space shuttle mission and obtained ultraviolet spectra of astronomical objects such as quasars, active galactic nuclei, and supernova remnants, extending into the little-explored ultraviolet range below 1200 Ångstroms. The instrument consisted of a telescope, prime focus spectrograph, and intensified photodiode array. Scientific studies have included research on the cores of active galaxies (where black holes likely reside), the torus of gas around Jupiter created by its moon Io, the characteristics of the intergalactic medium, and the stellar population in elliptical galaxies.

Active From
ASTRO - 1: XX Month, XXXX to XX Month, XXXX
ASTRO - 2: XX Month, XXXX to XX Month, XXXX

Resolution
3 Ångstroms per (pixel / res???)

Capabilities

- Spectroscopy
- Imaging (Guider)

WAVELENGTH COVERAGE

415 Å 1850 Å

HOME > Missions & Data > HUT

HUT Data Search Tools

HUT Data
More on reading HUT data, Catalogs, and Data Products.

MAST Archive **Search Classic** **FTP**

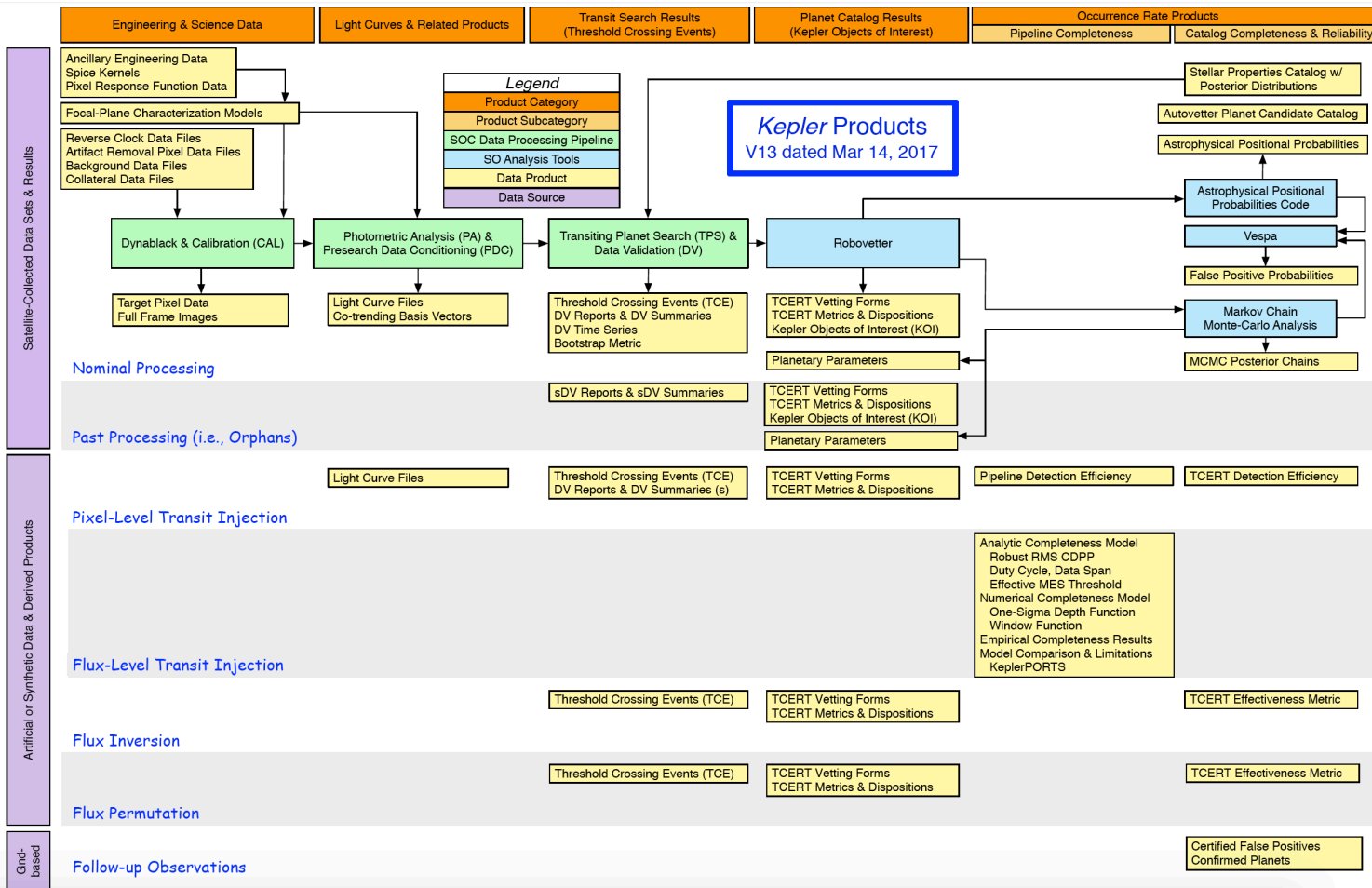
- Brief description of mission and data
- Direct links to various search options
- Lower pages will have information about data products, documentation etc



Kepler/K2 Closeout – S. Fleming



Kepler Closeout

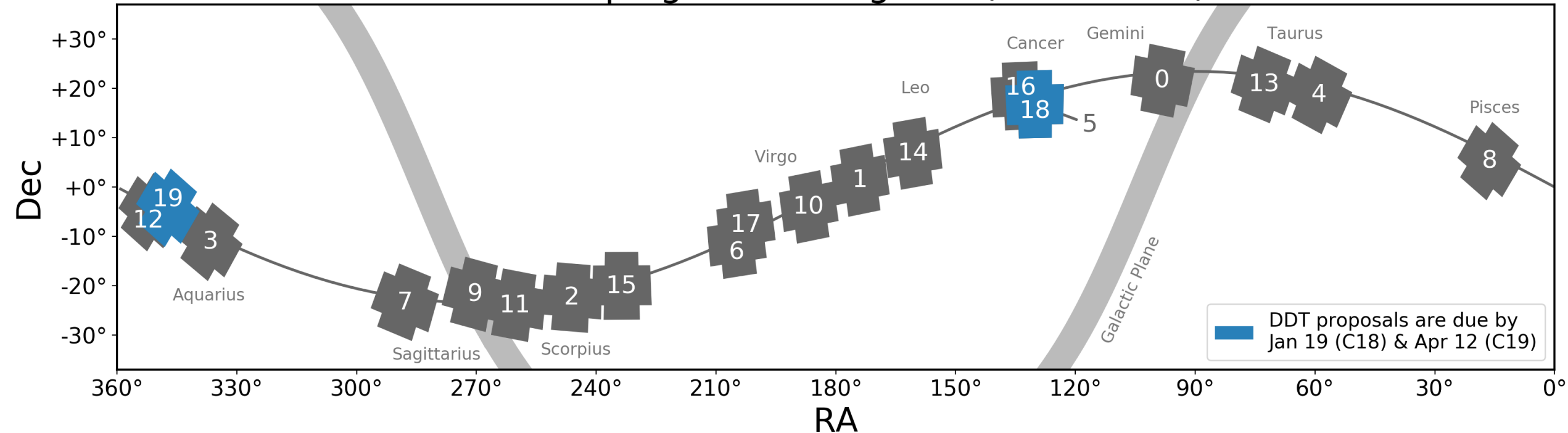


- Kepler close out basically done
- Few last pieces of documentation from the mission team: not essential, will be informative
 - Example: Data Product Roadmap (left)
- Potentially a few esoteric engineering files, JIRA tickets, etc. that could be archived
- Latest update was getting DV files from NExSci and including in Portal, using them to plan for TESS DV file interaction



K2 Operations

K2 Campaigns 0 through 19 (2014-2018)



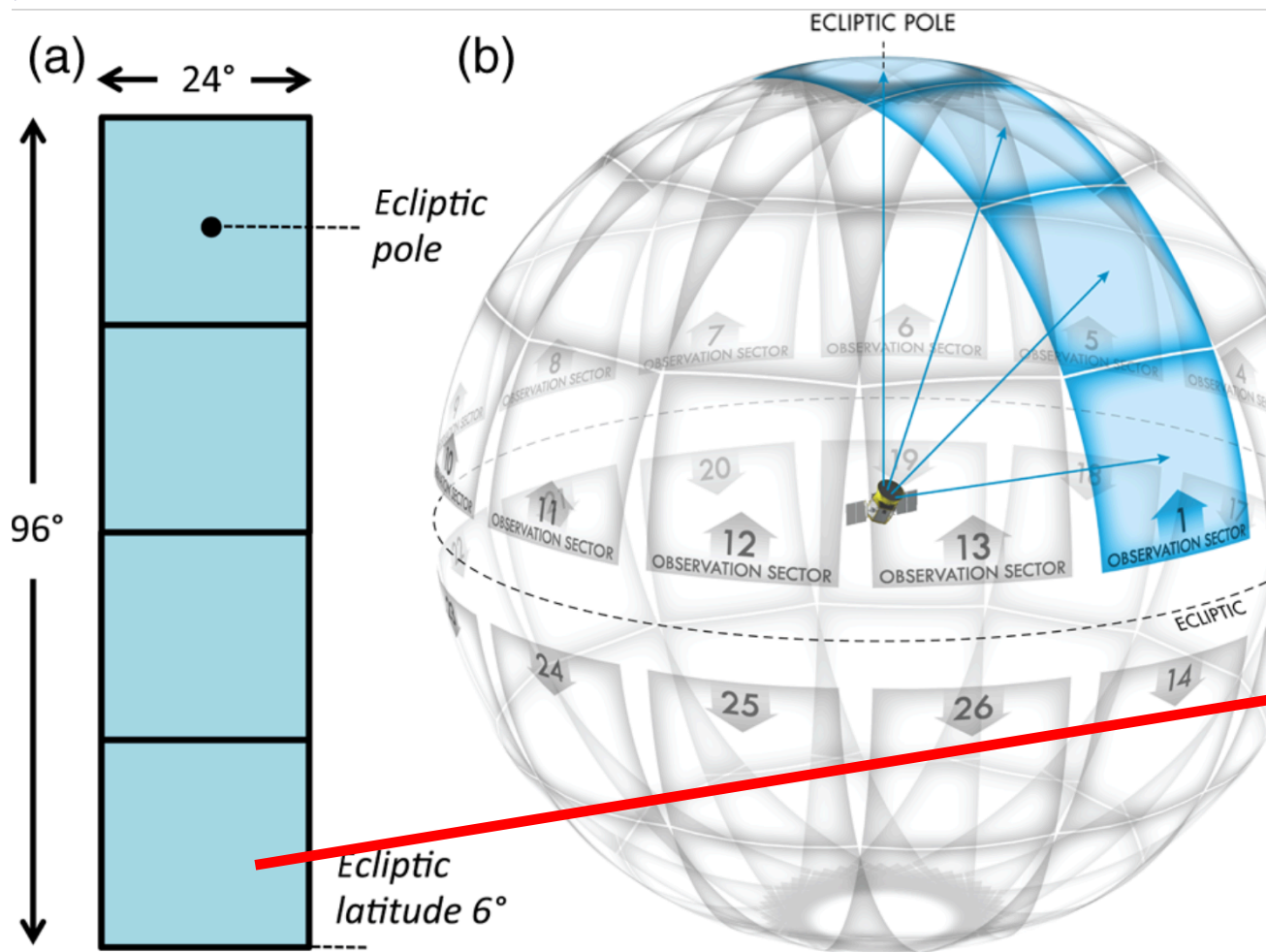
- Campaign 15 Raw Cadence Data is public
- Campaign 14 Processed Data is public
- HLSPs remain popular: continuing to solicit more K2 HLSPs from the community
- Spacecraft will likely finish Campaign 16, anything beyond that is “bonus” (fuel is running out)

The background of the slide is a deep blue and purple starry sky. A large, diffuse nebula with wispy, cloud-like structures is visible, primarily on the left and bottom-left sides. The sky is filled with numerous stars of varying brightness and colors, including many bright blue stars. A thin, horizontal orange line is positioned below the title text.

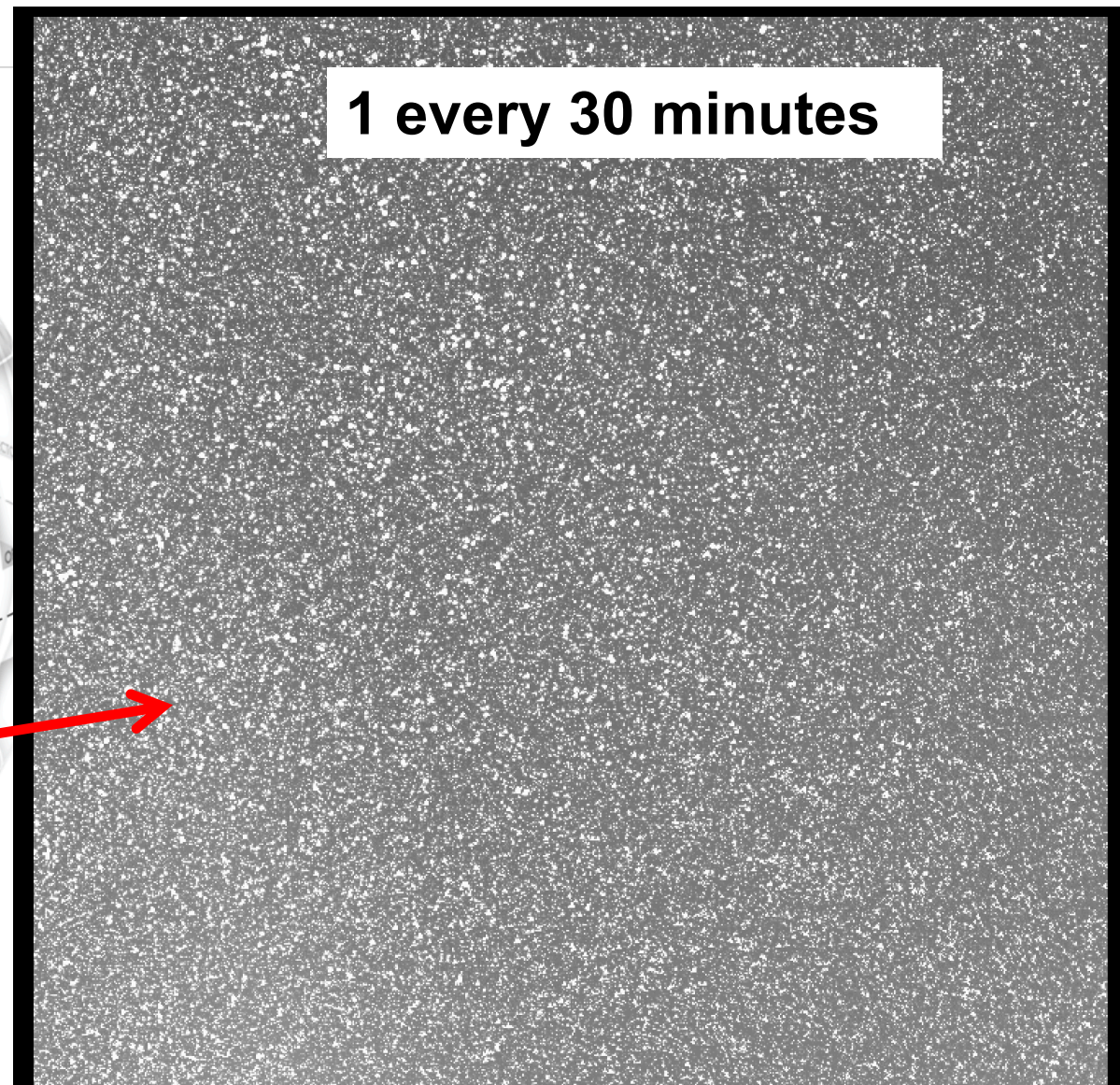
TESS PLanning- S. Fleming



TESS Planning: Data Overview

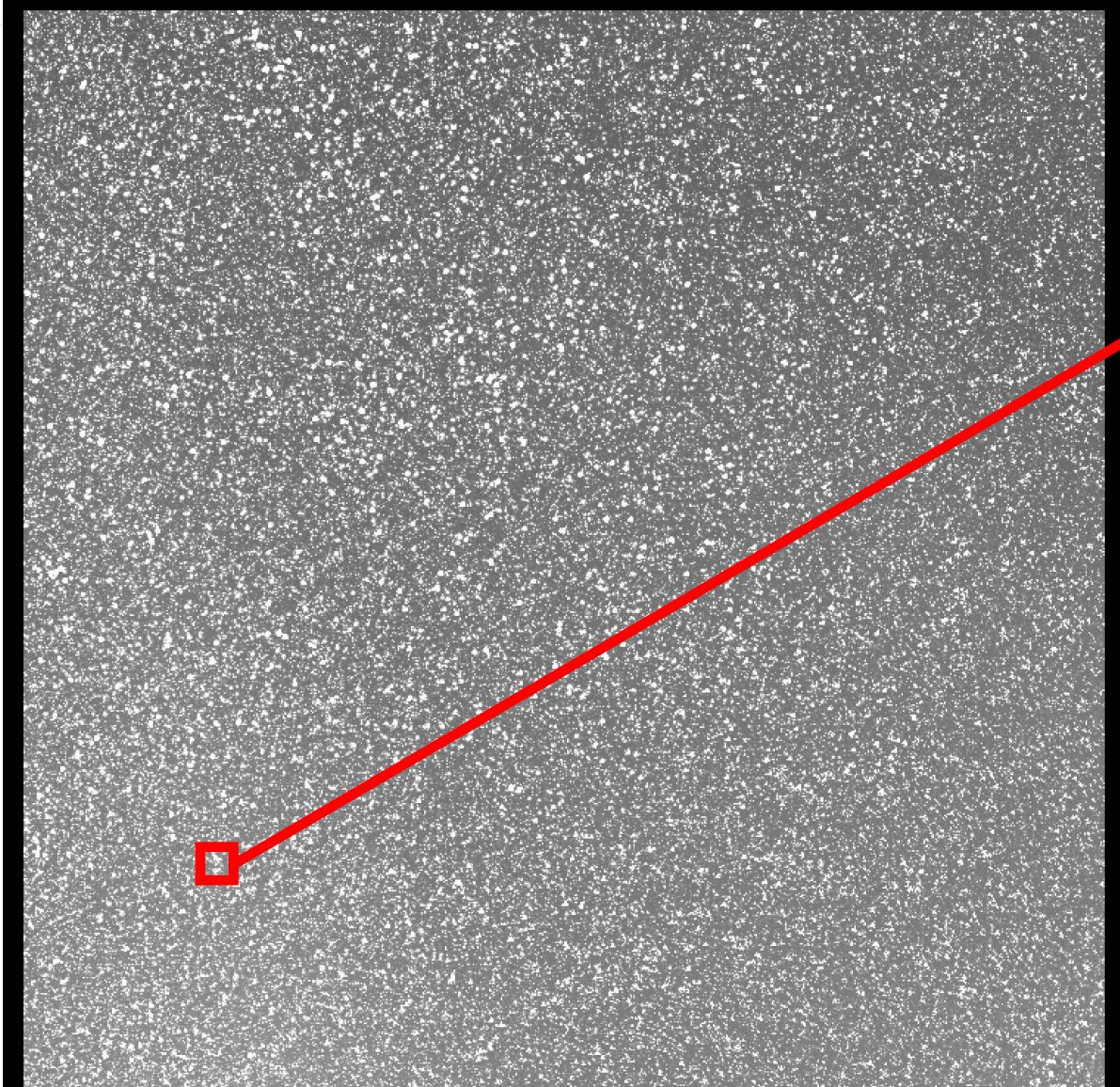


1 every 30 minutes





TESS Planning: Data Overview



A few hundred thousand targets get 2-minute cadence data: target pixel files, light curves, data validation files, etc.

BUT: a lot of science will be done using the Full Frame Images, both for exoplanets and numerous other science topics.



TESS Planning: Active Work Area

- TIC v6 (out this week) – last version before launch
- Ground Segment Test #3 finished, ingest process well-developed and flexed with all the data products expected from the mission
- Prepare Archive Manual and Data Products documentation (will use Confluence)
- We (MAST) will be making a TESS FFI cutout tool: command-line tool to cut-out small pieces of the FFI's and download target-pixel-file-like FITS to your computer
 - Since TPF like, community can use tools they already have for TPF's, ideally supplying HLSPs back to MAST
- NExSci-MAST TESS Follow-Up Coordination
 - TESS-funded Follow-Up Data Flow
 - Avenue for teams to take follow-up data at NExSci and convert them to MAST HLSP when papers are published
 - Follow-Up data at NExSci uploads fast, little/no requirements and standardization, is designed to be dynamic in the “here and now”
 - HLSP data at MAST follows standards, is designed to be permanent archive at the “end stage”



DOI – Josh Peek



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