



**STScI** | SPACE TELESCOPE  
SCIENCE INSTITUTE

EXPANDING THE FRONTIERS OF SPACE ASTRONOMY

## STScI Town Hall

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AAS Pasadena

Nancy Levenson, Josh Peek, and Neill Reid

June 14, 2022



# Overview

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## Agenda:

- General STScI updates including HST and JWST (Nancy Levenson)
- Enabling data science (Josh Peek)
- Upcoming science opportunities (Neill Reid)
- Q&A

Reminder: Slack channel #223\_stsci\_town\_hall for questions

Visit the STScI booth throughout for details about all these topics, job opportunities, and more!

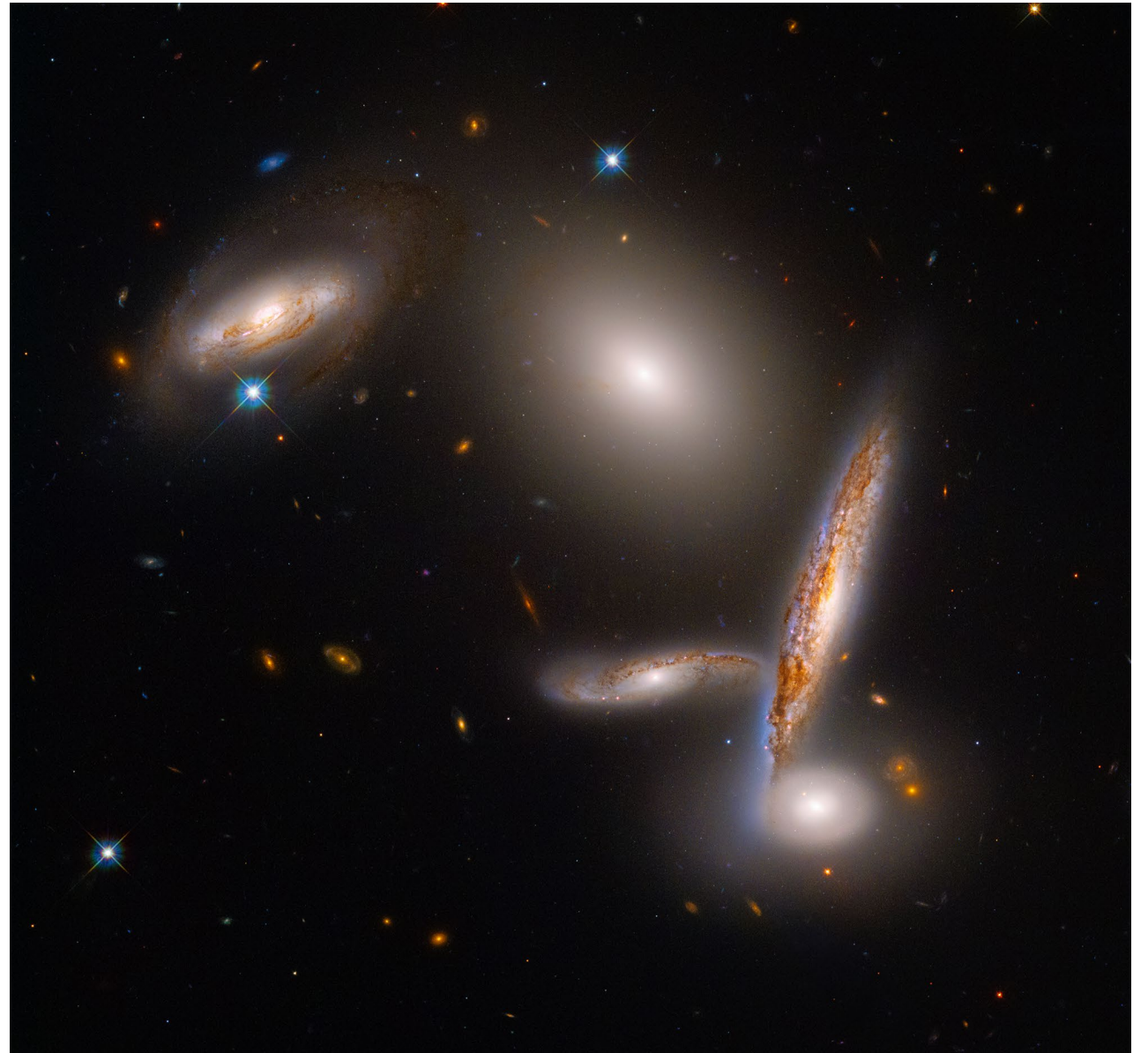




## Hubble's 32<sup>nd</sup> anniversary: Hickson Compact Group 40

Full story:

[STScI-2022-012](#)





# Surviving companion of a core-collapse supernova

Full press story:

[STScI-2022-011](#)

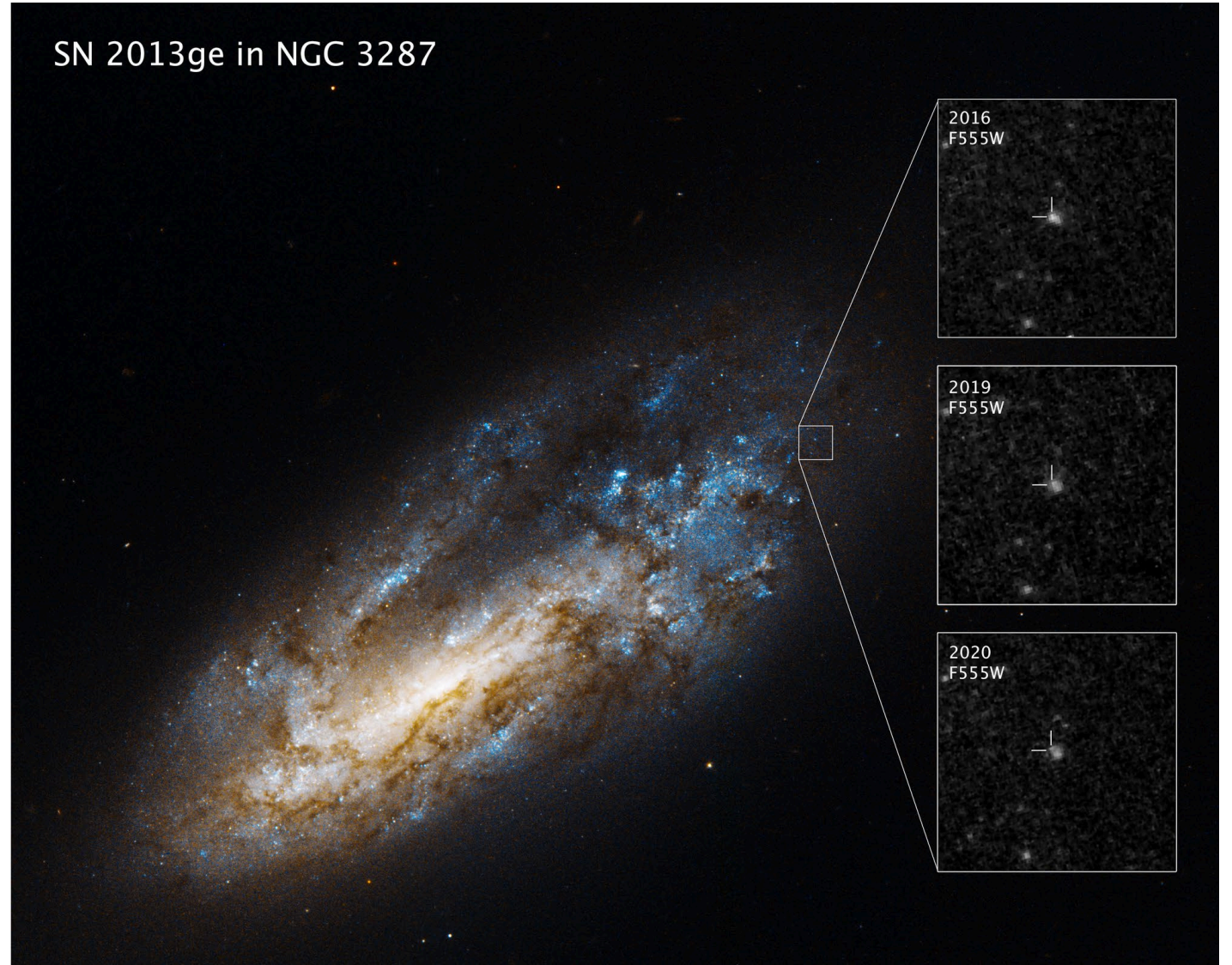
Science paper:

[Fox et al. 2022 ApJL](#)

Share **your** science results,  
from any STScI-supported  
mission or archive!

News information at [stsci.edu](https://stsci.edu)

SN 2013ge in NGC 3287





# Hubble hardware highlights

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- Hubble is doing well and we are planning for operation through the decade
- No significant anomalies since October 2021
- Issue with synchronization signal October 2021
  - Instruments returned to science
  - No repeat of anomaly
  - Mitigations implemented in flight software patches
  - Longer term, investigating more robust mitigations
- Payload computer (Science Instrument Command and Data Handling) Side B failure in mid-2021
  - Due to an electronic fault
  - Operations have continued on Side A
  - Staff are working on restoration of Side B operations to provide redundancy





# Hubble Advanced Products

- Hubble Data Management System began producing Multi-Visit Mosaics on 28 Apr 2022
  - (Single-Visit Mosaics operational Dec 2020)
- Public ACS & WFC3 data drizzled onto grid of pre-defined sky cells
- Separate products for each filter and detector combination, but all on same pixel grid
- Adjacent sky cells can be pieced together using the HAPcut package (<https://mast.stsci.edu/hapcut>) or directly from MAST using an API

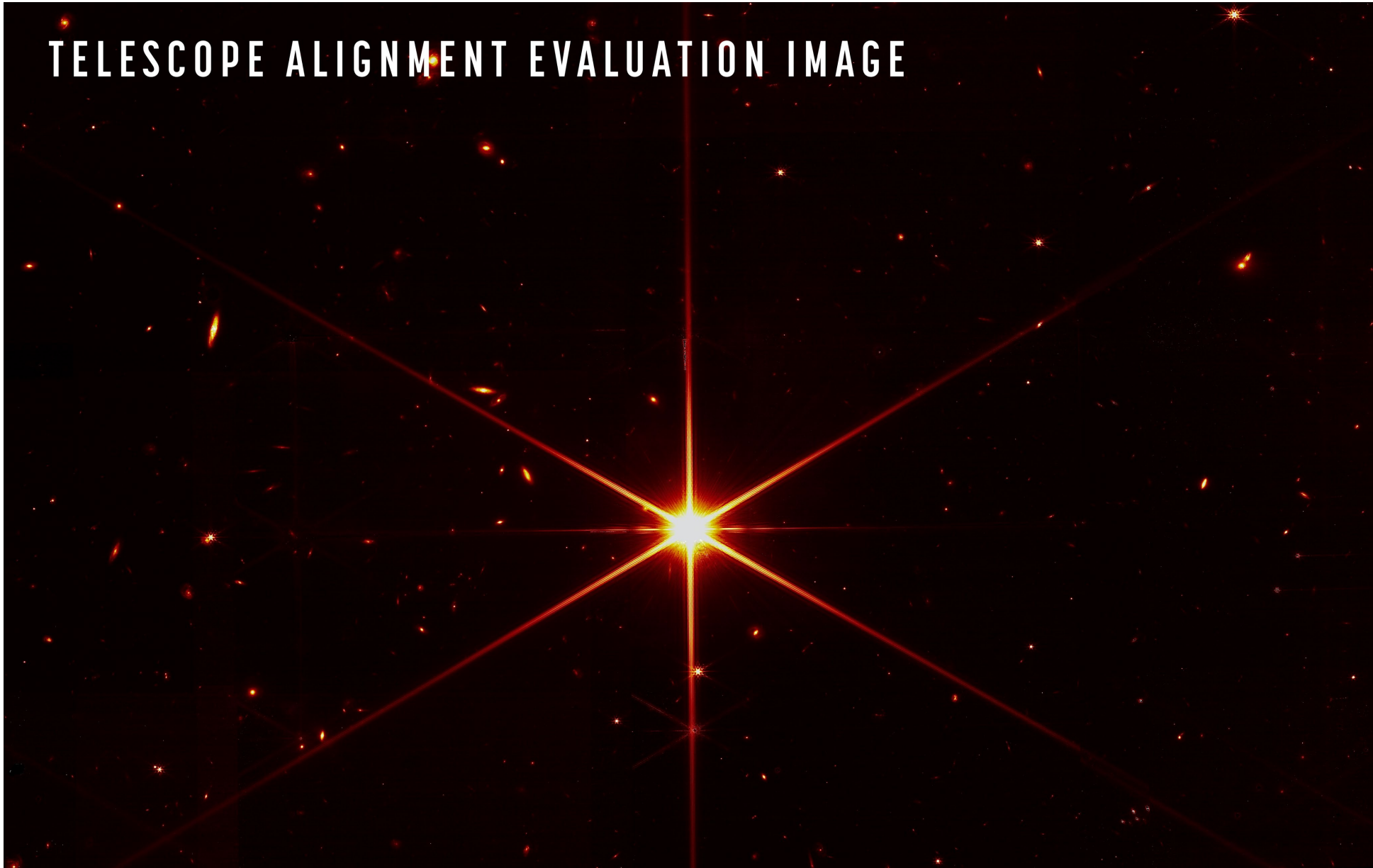


NGC 1569 Hubble Advanced Product



## JWST progress

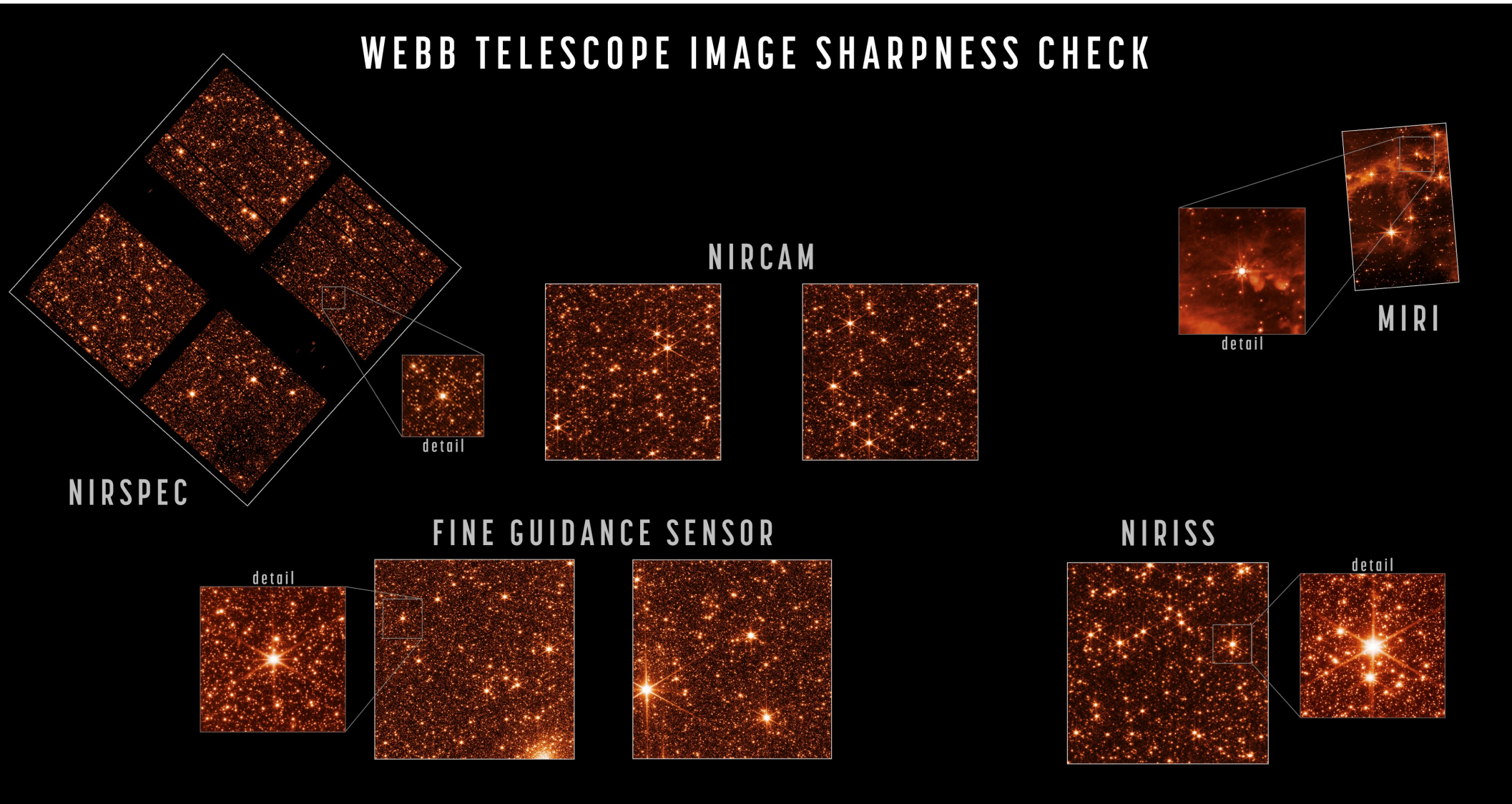
### TELESCOPE ALIGNMENT EVALUATION IMAGE





# JWST progress: all instruments are focused

## WEBB TELESCOPE IMAGE SHARPNESS CHECK







## More details and first science

JWST Town Hall tonight

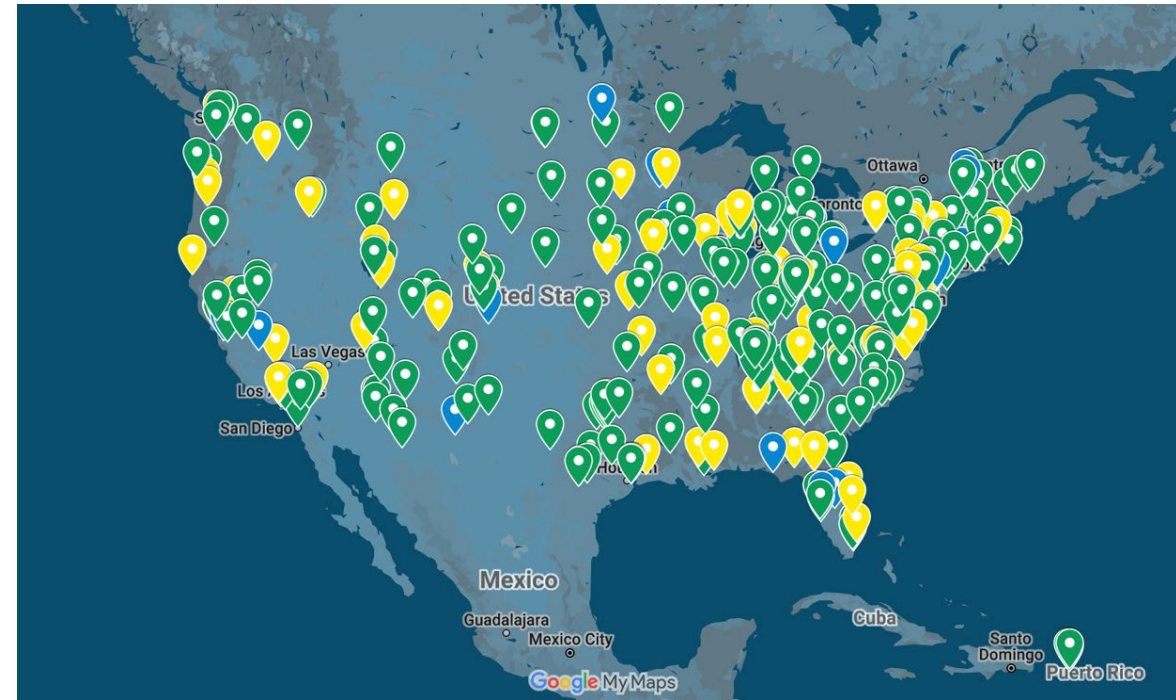
6:30PM, Hall C

Science release July 17

Public site: [webbtelescope.org](https://webbtelescope.org)

- “First look” [information](#) and coming gallery
- Over 600 Webb community [events](#) planned
- Additional [resources](#)

Scientist site: [stsci.edu/jwst](https://stsci.edu/jwst)



Some of the planned event locations



## Public engagement



Check out the **tactile image** at the STSci booth!  
Using at sites around the country.

Summer [Astrophoto Challenge](#) through July 31, part of NASA's Universe of Learning. Audiences make their own images, with scientist input.

Interested in sharing your expertise and science with learners nationwide? Visit [universe-of-learning.org/scientists-engineers](https://universe-of-learning.org/scientists-engineers) to learn more!



## Understanding the demographics of our user communities

“Across astronomy and astrophysics, there is a growing emphasis on making the field a place where everyone can thrive. However, ... it is not possible to assess whether any strategy is working without the associated data to measure what is happening.”

*Pathways to Discovery in Astronomy and Astrophysics for the 2020s*

STScI seeks to serve the full science community effectively. Doing so requires understanding who the community is and where particular constituents encounter barriers.

We recognize that this will require sensitive handling of personal information.

All information would be provided on voluntary basis.

How would the data be used? Sample use cases:

- Measuring proposal success to identify underrepresented groups of proposers or successful observers
- Matching experts to public outreach opportunities
- Supporting diverse representation in news releases