Spacecraft

- Spacecraft structure moved to SSDIF (large clean room at Goddard)
- Spacecraft harness (>40 miles!) completed thermal-vacuum testing and is now being integrated into spacecraft structure
- I&T Battery has arrived
- Significant progress on many other subsystems
• Currently installing relay optics to CGI

Aft-Optics Structure Thermal Electric Complete

Tip-Tilt Fold Assembly complete

Forward Optical Assembly (FOA) complete
Technical Working Groups

• Join Roman Technical Working Groups
  – Groups pursing topics of interest across many science areas
  – Two groups currently (calibration, software) but will add more after ROSES proposal selection
  – Simple web sign up page, open to all
    • https://asd.gsfc.nasa.gov/roman_signup/

• Calibration group – meets biweekly
  – Recent topics: Status of filter bandpass measurements, WFI update, defocused photometry

• Software group – meets biweekly
  – Recent topics
    • Slitless spectroscopy
    • Simulation underpinnings
    • Outline of level-3 image combination heritage inherited from JWST
    • Co-addition/supersampling for Bulge data at the SSC
    • Current thinking on Associations for level-3 processing
Roman Science Teams

• Previous Science Investigation Teams disbanded in 2021
  – See slides from community briefing for summary of their work

• ROSES proposal deadline was in March 2023
  – Anticipate making selections prior to Summer AAS (i.e. within a few weeks)

• Anticipate a significant increase in science community engagement in Roman
  – Help coordinate this with:
    • Additional technical working groups – e.g. simulations, photo-Z, astrometry etc
    • Initiate community led Science Collaborations
    • Intent is to help build a cohesive Roman science community. Participation in these groups is voluntary
Keeping in touch with Roman

• Join the Roman news mailing list
  – sign up to the mailing list by sending an e-mail to Roman-news-join@lists.nasa.gov (no text in the body is required, put something in the subject line)

• Monthly Roman Community Forum
  – https://asd.gsfc.nasa.gov/roman_forum/

• Monthly Roman Virtual Lecture Series
  – https://roman.ipac.caltech.edu/Lectures.html

• Regular Science Workshops
  – Next one will be organized by STScI – Roman Science Inspired by Emerging JWST Results, June 20-23
    • And next slides…
Surveying the Solar System --
• Rosemary Pike (CfA, Minor Planet Center)

Surveys within the Milky Way --
• Samuel Grunblatt (Johns Hopkins University)
• Nitya Kallivayalil (University of Virginia)

Resolved Studies of Nearby Galaxies --
• Myung Gyoon Lee (Seoul National University)

Galaxy Surveys at Low to Medium Redshift --
• Vivian U (UC Irvine)

Galaxy Surveys at High Redshift --
• Micaela Bagley (UT Austin)
• Jasleen Matharu (Cosmic Dawn Center)
• Jinyi Yang (University of Arizona/Steward)

Cosmology and Large Scale Structure --
• Ami Choi (Goddard Space Flight Center)

Surveys in the Time Domain --
• Patrick Kelly (University of Minnesota)

Hybrid Conference

☑ In person Registration Closes May 29th (11:59 PM EST)
☑ Virtual Registration Closes June 9th (11:59 PM EST)

For more information: bit.ly/RomanConf2023
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Hardware Glamour Shots

Final pre-assembly Primary Mirror Assembly cleaning & inspection

Forward Structure Assembly complete and ready for the next level of integration

Flight High Gain Antenna (HGA) at vendor – received 12/9!

Alignment Compensation Mechanism (ACM), Optical Bench, Enclosure, Latches, and Element Wheel Assembly have been integrated
Hardware Glamour Shots

(OTA) Lateral Vibe weldment flying over to the head expander

(OTA) Optical Large Aperture Flat System (OLAFS) mirror ready for Mounted Mirror Assembly (MMA) integration

(WFI) Flight Focal Plane Assembly pre-vibration thermal/vacuum testing completed

(WFI) simplified Relative Calibration System (sRCS) is in thermal/vacuum testing

FlatSat in the B.32 N410 Lab

(Sc) C&DH ETU Box

(Sc) PDU ETU Box

(WFI) Cold Module and Warm Electronics have been integrated and tested at Ball
simplified Relative Calibration System (sRCS) being packed for transport to Ball

Stimulus of Ray Cones in final test before thermal vacuum testing

Forward Optical Assembly (FOA) integration

Bus Primary Structure and lower/upper skirts arrive from B.5 – currently in B.29 High Bay ready for next level of assembly
Forward Structure Assembly (FSA) successfully integrated to Primary Mirror Assembly (PMA) ✯ Heritage Hardware Complete ✯

WFI Cold Module integration continues with the addition of the sRCS

Match drilling of bus to avionics panels in B.29 High Bay

High-Gain Antenna in the SSIDF
Three Paths for Community Engagement

• Join Roman Technical Working Groups
  – Groups pursing topics of interest across many science areas
  – Two groups currently (calibration, software) but will add more after ROSES proposal selection
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• Submit science pitch/white paper for Core Community Survey definition
  – Science pitch – few paragraphs describing science case for one of the community surveys, short questionnaire on survey parameters
    • Deadline Feb 17, low bar to entry (i.e. encourage high participation)
  – White papers – several page document with details on science case, sketch of survey design and methods/metrics on how to evaluate science FOM against survey parameters
    • Deadline summer, detail enables more meaningful evaluation

• Submit proposal to Roman ROSES solicitation
  – Funding to work on Roman science preparation (including engagement in working groups and survey definition)
  – Deadline March 21
Roman Project Status (selected highlights)

- **Wide Field Instrument**
  - Completed Relative Calibration System at Goddard, delivered to Ball Aerospace and installed in WFI
  - Testing of full instrument will begin this summer
- **Coronagraph Instrument**
  - The topic of this entire session!
- **Telescope**
  - The Primary Mirror Assembly (PMA) and Forward Structural Assembly (FSA) (with the Secondary Mirror Assembly) are complete.
- **Spacecraft**
  - Spacecraft bus Primary Structure being prepared to enter clean room
  - High gain antenna arrived at Goddard
  - Reaction Wheel Assemblies arrived at Goddard
- **Ground System**
  - Science Operations Center (at STScI) first software released earlier this month (includes things like planning and scheduling system)
- **Remain on track for October 2026 launch readiness date**
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Upcoming deadlines

• Feb 17 (this Friday) - science pitch pitch for core community survey
  – Please tell us how one of the three core community surveys could address your science!

• March 21 – deadline for proposals to the Roman ROSES solicitation