THE NANCY GRACE ROMAN SPACE TELESCOPE
Roman Observatory and Instruments

**Telescope:** 2.4m aperture

**Two Instruments:**

**Wide Field Instrument**
- Vis/Near IR bandpasses (0.48 – 2.3 micron)
- Field of view 0.281 deg$^2$ (~200× HST WFC3-IR)
- 18 4k × 4k detectors (288 Mpixels)

**Coronagraph Instrument**
- Visible bandpass
- Contrast $10^{-8}$-$10^{-9}$

**Data Volume:** 11 Tb/day

**Orbit:** Sun-Earth L2

**Launch:** before May 2027 (Currently Oct 2026)

**Mission Duration:** 5 yr, 10yr goal

https://roman.gsfc.nasa.gov/science/technical_resources.html
Roman as a Precise Survey Facility

• The power of Roman is not just that it has a large field of view:
  
  – Very efficient observations
    • Rapid slew & settle
    • no Earth occultations
    • no South Atlantic Anomaly
  
  – Well understood and stable PSF
    • Stable thermal environment (L2 orbit, thermal control of all parts of the optical system)
    • Rigid optical structure with vibration isolation from the spacecraft
    • Stable attitude control
  
  – Excellent flux calibration
    • Relative calibration system

For details, see Akeson et al. 2019  https://arxiv.org/abs/1902.05569
Roman Data Flow

STScI
Science Operations Center
Data Management System

WFI Exposure-level processing

WFI High-level processing

Archive

WFI Data Analysis

Science community

Data and software

Science ready data

• this is just a small part of the support that the science centers provide to the community

IPAC
Science Support Center
Data Management

WFI high-level processing
Microlensing & spectroscopy

CGI data analysis environment

Downlinked science data

Low-level processed data

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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 subject or text in the body is required)

• Monthly Roman Community Forum
  – 4^{TH} Wed of each month at 4pm EDT
  – 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 Interest Group (2020 - .. )


- Meeting presentations and notes available on the meetings tab
  - Discussions on observing program, proposal opportunities, mission/instrument status etc
  - Provides advice and guidance on all aspects of community engagement

- Regular opportunities to join this group

- Reports to Project and Program Scientists

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<thead>
<tr>
<th>Megan Donohue (Chair)</th>
<th>Michigan State U.</th>
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<tr>
<td>Zeljko Ivesic</td>
<td>U. Washington</td>
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<td>Jessica Lu</td>
<td>UC Berkeley</td>
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<td>John MacKenty</td>
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<td>Ashley Villar</td>
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<td>Alice Shapley</td>
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<td>Jessie Christiansen</td>
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<td>David Spergel</td>
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<td>Lee Armus</td>
<td>Science Center (IPAC) (ex-officio)</td>
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Community Forum

- Regular opportunity to learn about Roman mission status and plans
  - Project Status updates
  - Updates on specific subsystems (WFI this month, CGI next month)
  - Status/plans for community engagement initiatives
  - Opportunity to interact/ask questions of project and science center leadership