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 deg² (~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





Join the Roman news mailing list

– sign up to the mailing list by sending an e-mail to <u>Roman-news-join@lists.nasa.gov</u> (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



- <u>https://roman.gsfc.nasa.gov/science/rsig.html</u>
- 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

Megan Donohue (Chair)	Michigan State U.
Zeljko Ivesic	U. Washington
Jessica Lu	UC Berkeley
John MacKenty	STScl
Ashley Villar	Columbia U / Flatiron Institute
Alice Shapley	UCLA
Keith Bechtol	UW, Madison
Saurabh Jha	Rutgers U
Peter Melchior	Princeton U
Dara Norman	NOIRlab
Jessie Christiansen	NEXSci/ CalTech
Rachel Bean	Cornell U
Ryan Hickox	Dartmouth
Dimitri Mawet	CalTech
David Spergel	Simons Foundation (ex-officio)
Jeremy Kasdin	U. San Francisco (ex-officio)
Roeland van der Marel	Science Center (STScl) (ex-officio)
Lee Armus	Science Center (IPAC) (ex-officio)



- 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