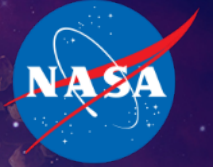


National Aeronautics and
Space Administration




EXPLORE SOLAR SYSTEM & BEYOND

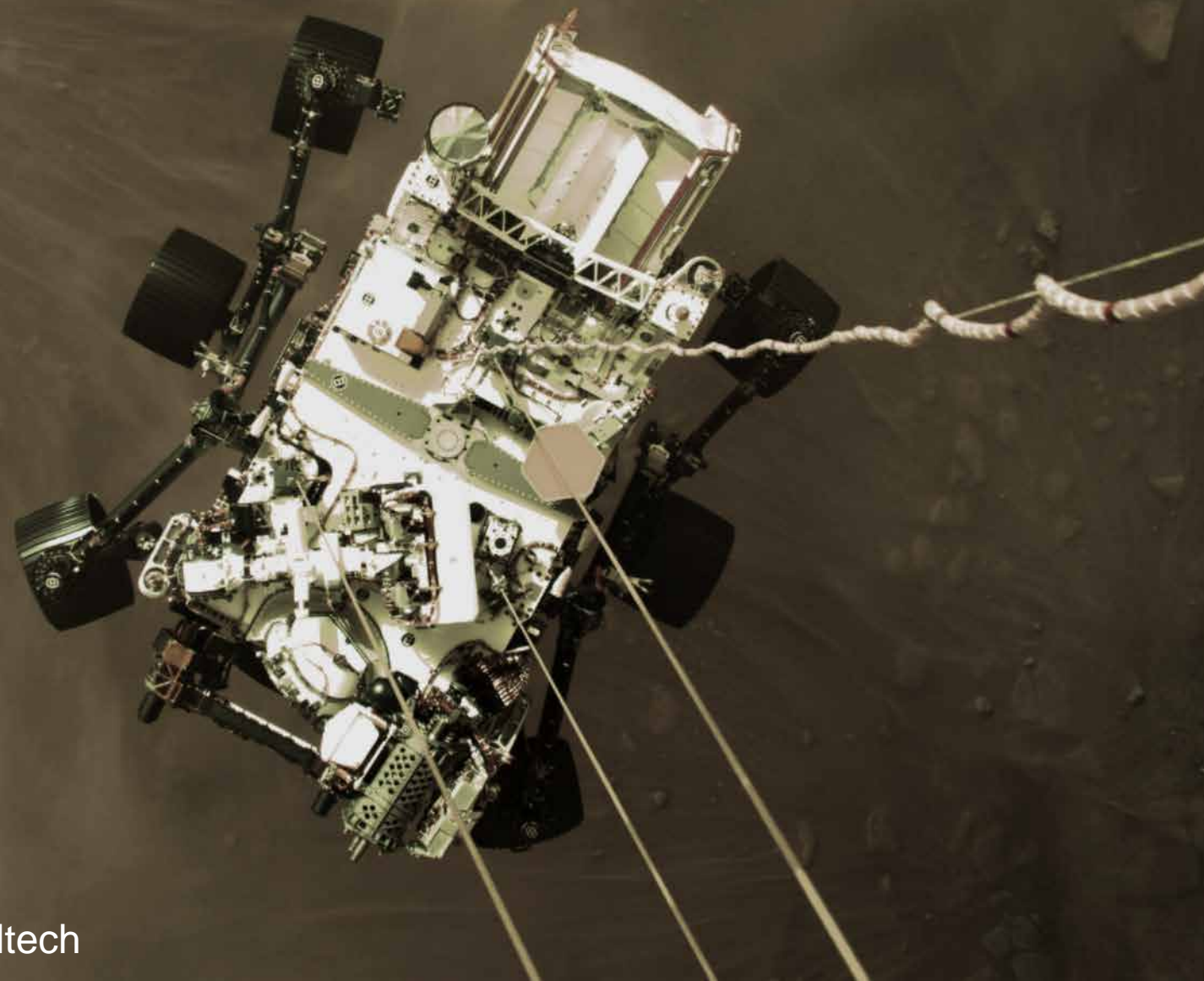
NASA Astrophysics Update

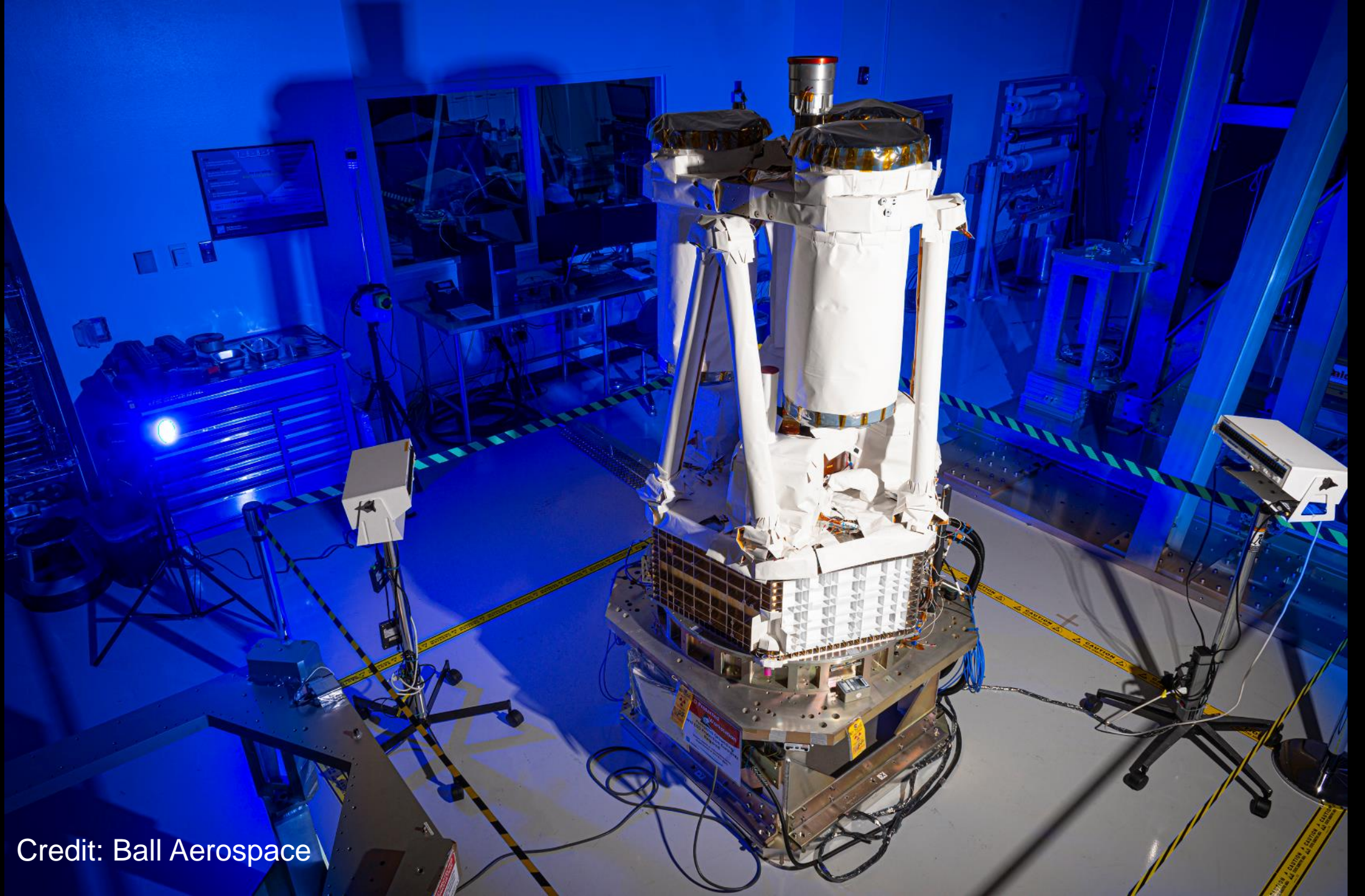
AAAC Meeting | February 24, 2021

Paul Hertz

Director, Astrophysics Division
Science Mission Directorate

 [@NASAUniverse](https://twitter.com/NASAUniverse) [@NASAEoplanets](https://twitter.com/NASAEoplanets)

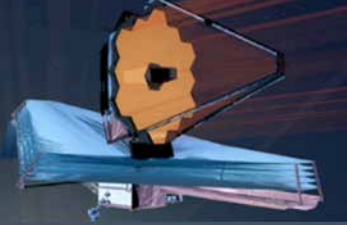




Credit: Ball Aerospace

Astrophysics Missions in Development

Webb 2021
NASA Mission



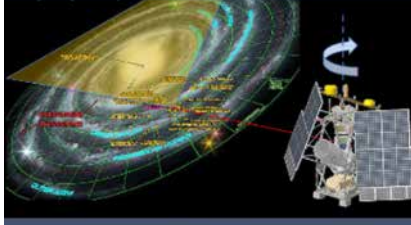
James Webb
Space Telescope

IXPE 2021
NASA Mission



Imaging X-ray
Polarimetry Explorer

GUSTO 2021
NASA Mission



Galactic/ Extragalactic ULDB
Spectroscopic Terahertz Observatory

Euclid 2022
ESA-led Mission



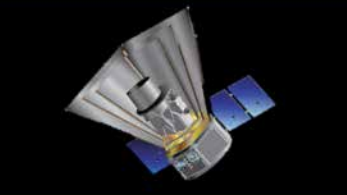
NASA is supplying the NISP
Sensor Chip System (SCS)

XRISM 2023
JAXA-led Mission



NASA is supplying the SXS
Detectors, ADRs, and SXTs

SPHEREx 2024
NASA Mission



Spectro-Photometer for the History of
the Universe, Epoch of Reionization,
and Ices Explorer

SMEX ~2025
NASA Mission



COSI or ESCAPE

Mission of Opportunity ~2025
NASA Mission



Dorado or LEAP

Roman 2026
NASA Mission



Nancy Grace Roman
Space Telescope

ARIEL 2029
ESA-led Mission



NASA is supplying the CASE
fine guidance instrument

Launch dates are current project working dates; Agency Baseline Commitment launch date could be later; impacts of COVID-19 not yet known

2021 Astrophysics Research Program Elements

ROSES-21:

Supporting Research and Technology

- Astrophysics Theory Program (ATP), every other year
- Astrophysics Research & Analysis (APRA)
- Strategic Astrophys Tech (SAT) (dependent on Astro2020)
- Roman Technology Fellowships (RTF)

Data Analysis

- Astrophysics Data Analysis (ADAP)
- GO/GI programs for Fermi, Swift, NuSTAR, TESS, NICER

Mission Science and Instrumentation

- Astrophysics Pioneers (smallsat science investigations)
- Suborbital payloads solicited through APRA
- XRISM Guest Scientist **New**
- Roman Research and Support Opportunities **New**

Cross Divisional

- Exoplanets Research Program (XRP)
- Citizen Science Seed Funding Program **New**
- Topical Workshops, Symposia and Conferences (TWSC)
- Graduate Student Research Awards (FINESST)

Not in ROSES-21:

Separately Solicited

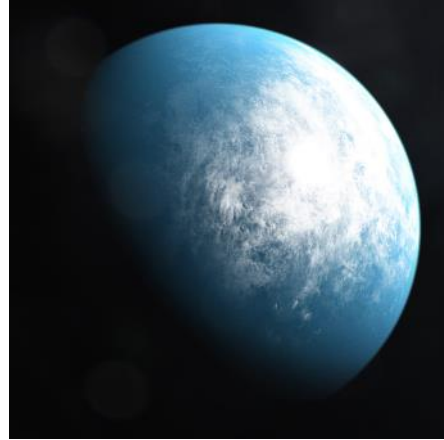
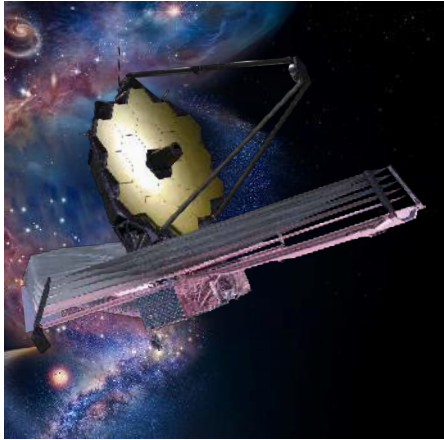
- GO/GI/Archive/Theory programs for Hubble, Chandra, SOFIA, Webb
- NASA Hubble Fellowship Program (NHFP)
- NASA Postdoctoral Program (NPP)
- Support for XMM-Newton U.S. PIs selected by ESA

Not Solicited this Year

- Theoretical and Computational Astrophysics Networks (TCAN), every three years
- Astrophysics Explorers U.S. PIs (APEX USPI), every two to three years

Red – evaluated using dual-anonymous peer reviews

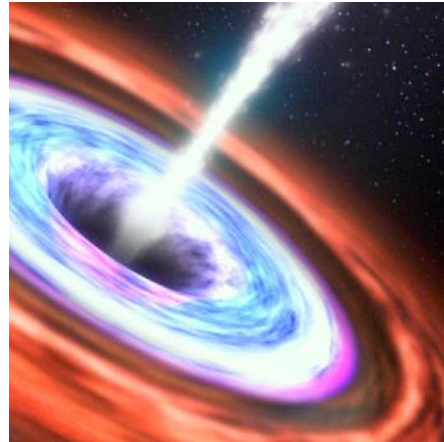
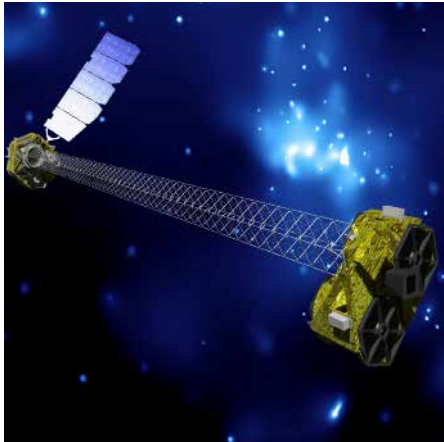
Astrophysics FY21 Appropriation



The FY 2021 NASA Budget Request included no funding (\$0) for the Roman Space Telescope and only close out funding (\$12M) for SOFIA

The FY 2021 Omnibus Appropriation Bill

- Provides \$1.77B for Astrophysics (including the James Webb Space Telescope), \$525.2M more than the request
- Directs \$414.7M for Webb, same as the request
- Directs \$505.2M for Roman, \$505.2M more than the request
- Directs \$93.3M for Hubble, \$5M more than the request
- Directs \$85.2M for SOFIA, \$73.2M more than the request
- Directs \$10M for “search for life technology development”



The total funding provided is an increase of \$525.2M over the request



MARS 2020



DART



Landsat 9



Webb



IXPE

2021 – A Year of Science



O-REx



Peregrine



Nova-C



Lucy



GOES-T

- LAUNCH
- LANDING
- DEPARTURE