Contribution ID: **44** Type: **Oral presentation (20 minute)**

Summary of the Nancy Grace Roman Space Telescope Flight Detector Performance

Thursday, 14 March 2024 08:55 (25 minutes)

The Nancy Grace Roman Space Telescope will study the dark matter content of the universe, the expansion history of the universe, and the diversity of exoplanets in the Galaxy using unprecedented wide field infrared surveys. Roman will accomplish this using a focal plane of 18 newly developed HgCdTe detectors. Roman's detectors, the H4RG-10, are 4K x 4K format 10 micron pixel pitch devices manufactured by Teledyne Imaging Systems. After acceptance testing at the Goddard Detector Characterization Lab, 18 flight detectors were selected for the flight focal plane. System level testing of the focal plane was completed at Goddard in 2023, after which the focal plane was integrated into the Wide Field Instrument (WFI) at Ball Aerospace. At the end of 2023, the WFI completed its first thermal vacuum test, providing the first instrument level performance measurements of the focal plane. We review the performance of Roman's flight focal plane and lessons learned during integration and testing.

contribution subject matter

(Other)

Keywords for your contribution subject matter (this will assist SOC in accurately characterizing your contribution)

hybridized photodiode arrays, HgCdTe

Primary authors: Dr MOSBY, Greg (NASA GSFC); Dr CABRERA, Mario

Presenter: Dr MOSBY, Greg (NASA GSFC)

Session Classification: Sensors for Nancy Grace Roman

Track Classification: Major ISPA Workshop Tracks: Sensor and Systematics Characterization