









NASA's Roman Coronagraph Instrument will greatly advance our ability to directly image exoplanets, or planets and disks around other stars.

The Roman Coronagraph Instrument, a technology demonstration designed and built by NASA's Jet Propulsion Laboratory, will fly aboard NASA's next flagship astrophysics observatory, the Nancy Grace Roman Space Telescope.

Coronagraphs work by blocking light from a bright object, like a star, so that the observer can more easily see a nearby faint object, like a planet. The Roman Coronagraph Instrument will use a unique suite of technologies including deformable mirrors, masks, high-precision cameras, and active wavefront sensing and control to detect planets 100 million times fainter than their stars, or 100 to 1,000 times better than existing space-based coronagraphs. The Roman Coronagraph will be capable of directly imaging reflected starlight from a planet akin to Jupiter in size, temperature, and distance from its parent star.



ARTWORK KEY

- 1. THE NANCY GRACE ROMAN SPACE TELESCOPE
- 2. EXOPLANET COUNT Total number of exoplanets discovered at the time of poster release. This number is increasing all of the time.
- 3. NANCY GRACE ROMAN'S BIRTH YEAR Nancy Grace Roman was born

on May 16, 1925.

- 4. COLOR FILTERS Filters block different wavelengths, or colors, of light.
- 5. EXOPLANET CAMERA
- 6. DEFORMABLE MIRRORS Adjusts the wavefront of incoming light by changing the shape of a mirror with thousands of tiny pistons.
- 7. FOCAL PLANE MASK This is a mask that helps to block starlight and reveal exoplanets.
- 8. LYOT STOP MASK This is a mask that helps to block starlight and reveal exoplanets.
- 9. FAST STEERING MIRROR This element corrects for telescope pointing jitter.
- **10. ADDITIONAL CORONAGRAPH MASKS** These masks block most of the glare from stars to reveal faint orbiting planets and dusty debris disks.

www.nasa.gov