National Aeronautics and Space Administration

NASA

THE NANCY GRACE ROMAN SPACE TELESCOPE

WIDE FIELD INSTRUMENT

TARGET ACQUIRED

HIGH SCORE: 1,990

CURRENT SCORE: 1,960

POSITION THE FIELD OF VIEW TO CAPTURE THE UNIVERSE

COSMIC CARTOGRAPHERS

ASTROPHYSICS QUEST

COSMIC PICTURE

ROMAN GAMES PRESENTS
SURVEY THE SKY

POWER
ON
OFF

DETECTORS

MODE
IMAGING
SPECTROSCOPY

WAVELENGTH

DARK ENERGY

R.ROMAN

DARK MATTER
TASTE THE CHOCOLATEY MYSTERY

ROMAN GAMES™
LUMINOSITY ODYSSEY
VIDEO GAME CARTRIDGE

TRANSIENT HORIZONS
VIDEO GAME CARTRIDGE

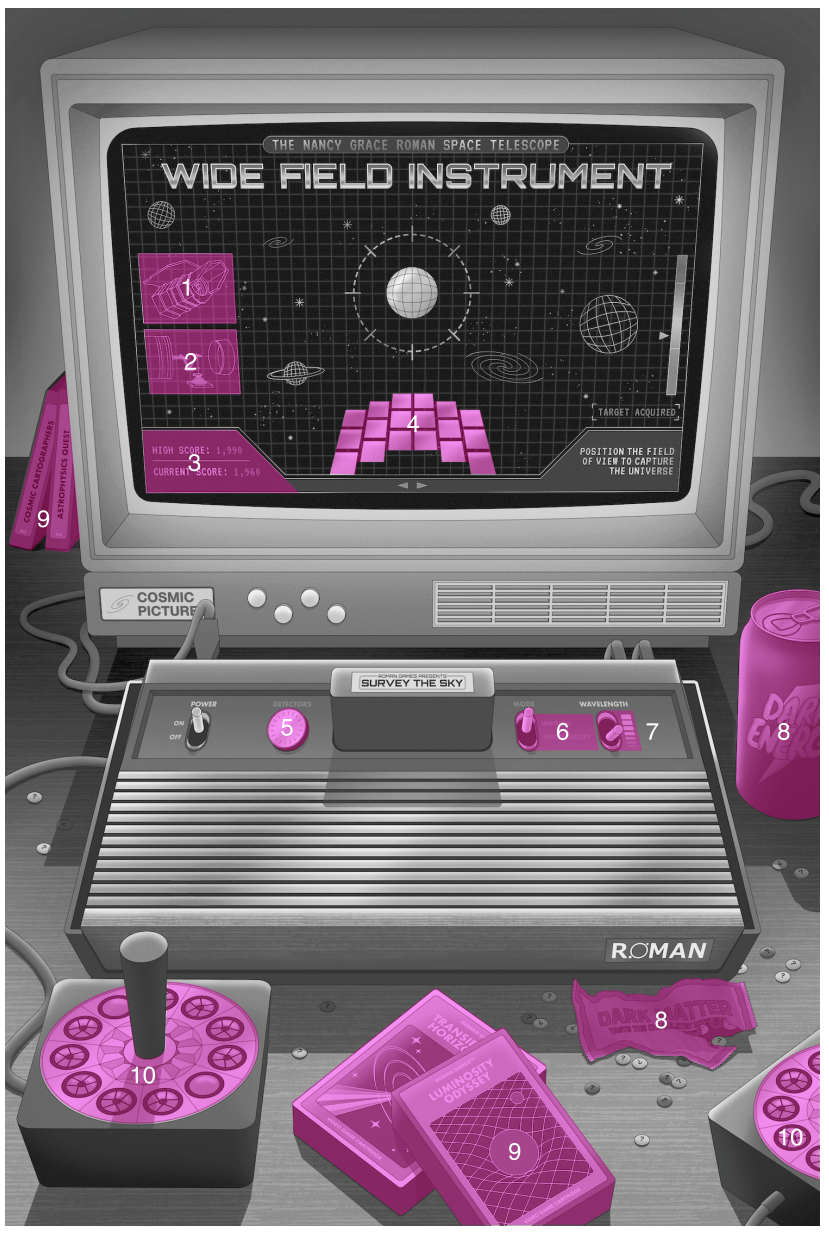
www.nasa.gov

The Wide-Field Instrument (WFI), the primary instrument aboard NASA's Nancy Grace Roman Space Telescope, is a 300-megapixel visible and infrared camera that will allow scientists to perform revolutionary astrophysics surveys.

This specialized camera detects faint light across the cosmos and will be used to study a wide range of astrophysics topics including the expansion and acceleration of our universe, planets orbiting other stars in the Milky Way, and far off galaxies.

WFI will conduct surveys to detect and measure billions of stars and galaxies along with rare phenomena that would otherwise be difficult or impossible to find. To survey large areas of sky, WFI uses a suite of 18 detectors that convert incoming light into electrical signals that are translated into images.

While Roman will operate alongside other space telescopes like Hubble, WFI's capabilities are pushing the boundaries of what is possible. Roman's WFI has a similar sensitivity and resolution to Hubble, but WFI will capture images that cover about 100 times more sky in a single observation and will survey the sky up to 1,000 times faster.



ARTWORK KEY

1. **THE NANCY GRACE ROMAN SPACE TELESCOPE**
2. **LIGHT PATH**
   The light entering the telescope will take this path, bouncing off of multiple focusing mirrors and passing through filters or dispersers in the element wheel to reach the detectors.
3. **IMPORTANT YEARS**
   1990: NASA's Hubble Space Telescope launched.
   1960: Nancy Grace Roman became NASA's Chief Astronomer.
4. **FIELD OF VIEW**
   Roman's field of view is about 100 times larger than that of the infrared camera onboard the Hubble Space Telescope. WFI's large field of view is achieved using an array of 18 detectors which are represented by the squares in this graphic
5. **DETECTORS**
   This dial has one tick mark for each of WFI's 18 detectors.
6. **MODES**
   Roman has imaging and spectroscopy modes.
7. **WAVELENGTHS**
   WFI will observe in both visible and infrared light and can select which wavelengths reach the detectors using filters in the element wheel.
8. **"DARK ENERGY" DRINK AND "DARK MATTER" CANDY**
   Roman will enable new research into the mysteries of dark energy and dark matter.
9. **SCIENCE GOALS**
   The names of these games capture WFI's role as a survey instrument and the types of surveys it will perform.
10. **JOYSTICK**
    This joystick features design elements found on the WFI's element wheel assembly, a large, rotating metal disk with optics that filter or disperse light.