

BONUS!

2024 GUIDE TO THE NIGHT SKY

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SNAPSHOT

JWST SEES THE RING NEBULA IN A NEW LIGHT

New images are helping astronomers understand how Sun-like stars live and die.

The Ring Nebula (M57), 2,200 light-years away in Lyra, is one of the most famous planetary nebulae — the final stages of a dying Sun-like star, shedding its outer layers. But the James Webb Space Telescope (JWST) has produced two striking images that reveal unprecedented detail in its intricate features. At bottom, JWST's Near Infrared Camera captured the complex, filamentary structure of the ring, which is made of about 20,000 individual clumps of dense gas, each with roughly the mass of Earth. At top, the Mid-Infrared Instrument revealed concentric features in the halo that crowns the outer regions of the nebula. The spacing of these features suggests a hidden companion star orbits the central star every 280 years, sculpting the Ring's outflow.

—ELIZABETH GAMILLO



HOT BYTES



STORMY SATURN

Radio observations of ammonia in Saturn's atmosphere have revealed that the planet's enormous storms — which appear every few decades as a "great white spot" — can cause disruptions in the atmosphere that last for more than 100 years.



ARECIBO'S SHUTDOWN

Puerto Rico's Arecibo Observatory, which collapsed in 2020, officially ceased scientific activities Aug. 14, 2023. The owner, the National Science Foundation, plans to convert it into an educational center.



LENSED SUPERNOVA

Using multiple telescopes across the globe, astronomers have detected a supernova in a galaxy 4.5 billion light-years distant that appears lensed into four images due to the gravity of a foreground galaxy bending its light. This gravitational lensing has magnified the supernova, SN Zwicky, by a factor of 25, opening a window into the distant universe.

ESA/WEBB, NASA, CSA, M. BARLOW (UNIVERSITY COLLEGE LONDON), N. COX (ACRI-ST), R. WESSON (CAROLINA UNIVERSITY), RIGHT COLUMN FROM TOP: NASA/JPL/SPACE SCIENCE INSTITUTE; J. JOHANSSON; MICHELLE NEGRON, NATIONAL SCIENCE FOUNDATION