

**FIELD  
REPORT**

**COMPLETE ANNULAR SOLAR ECLIPSE COVERAGE!** p.36

MARCH 2024

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Vol. 52 • Issue 3

SNAPSHOT



## UNPARALLELED LOOK AT GALACTIC CORE

JWST's near-infrared view is a showcase of active star formation.

NASA's James Webb Space Telescope (JWST) strikes again, this time by capturing never-before-seen details in the dense core of the Milky Way Galaxy. The image shows Sagittarius C (Sgr C), a star-forming region located 26,000 light-years from us and 300 light-years from the Galaxy's supermassive black hole, Sagittarius A\*. JWST's incredible level of resolution and sensitivity provides stunning features, both explained and unexplained.

This colorful section of Sgr C contains a mosaic of around 500,000 shining stars spread across the frame. The azure emission and "needles" that appear to be pointing in every direction comprise a large-scale region of ionized hydrogen (HII) gas. Extending down from the top of the frame is an

infrared-dark cloud, a dense region of cold gas and dust that appears to blot out the light of background stars. At the lower edge of this infrared-dark cloud, nestled among the HII gas, lies a luminous protostar cluster.

The cluster contains stars

that are forming and gaining mass, causing them to produce bright outflows of gas and materials, all the while emitting energetic photons that cause the nearby HII to glow. The core of the cluster contains a massive younger star with over 30 times the

mass of our Sun. Despite how bright the cluster appears, the clouds forming it are so dense that not all the stars within can be observed by JWST. This means the cluster is far more crowded and packed than it appears. —DANIELA MATA



### HOT BYTES



#### FOLLOW THE BRIGHT LIGHT

A 200-second-long gamma-ray burst (GRB) detected March 7, 2023, and designated GRB 230307A was over a million times more luminous than our entire galaxy. JWST follow-up observations suggest the GRB resulted from a collision of neutron stars 1 million light-years distant.



#### DISK MATTERS

The first extragalactic circumstellar disk around a forming star was found located in the Large Magellanic Cloud about 160,000 light-years away. After a jet from the star hinted at the disk's presence, the researchers used data from the Atacama Large Millimeter/submillimeter Array to confirm.



#### REMEMBERING SPACE TRAVELERS

Ken Mattingly, who orbited the Moon on Apollo 16, died Oct. 31, 2023. One week later, Frank Borman, who commanded Apollo 8, died Nov. 7. Shortly after on Nov. 27, the 10th female astronaut in space, Mary Cleave, passed.