

“Colliding galaxies ignite the universe’s most powerful black holes, Euclid data finds”

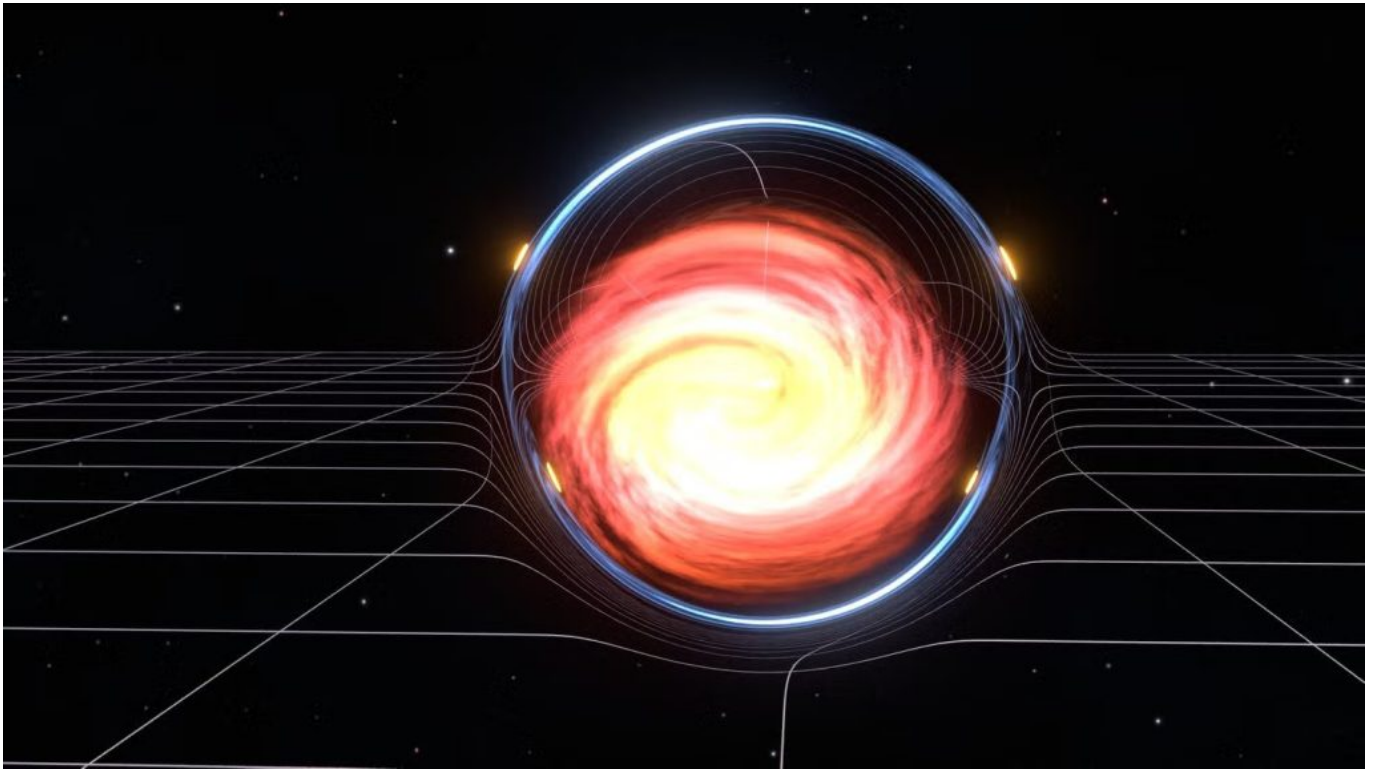


Understanding how galaxies grow has long stood as one of astronomy’s core challenges. Over time, scientists have gathered evidence that galaxy mergers matter. When two

galaxies move close, gravity can pull gas toward their centers. That gas can spark new stars and feed a supermassive black hole, switching it on as an active galactic nucleus, or AGN. Still, researchers have debated how strong this link truly is.

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**“10 billion-year-old
supernova sheds new light on
cosmic expansion and dark
energy”**

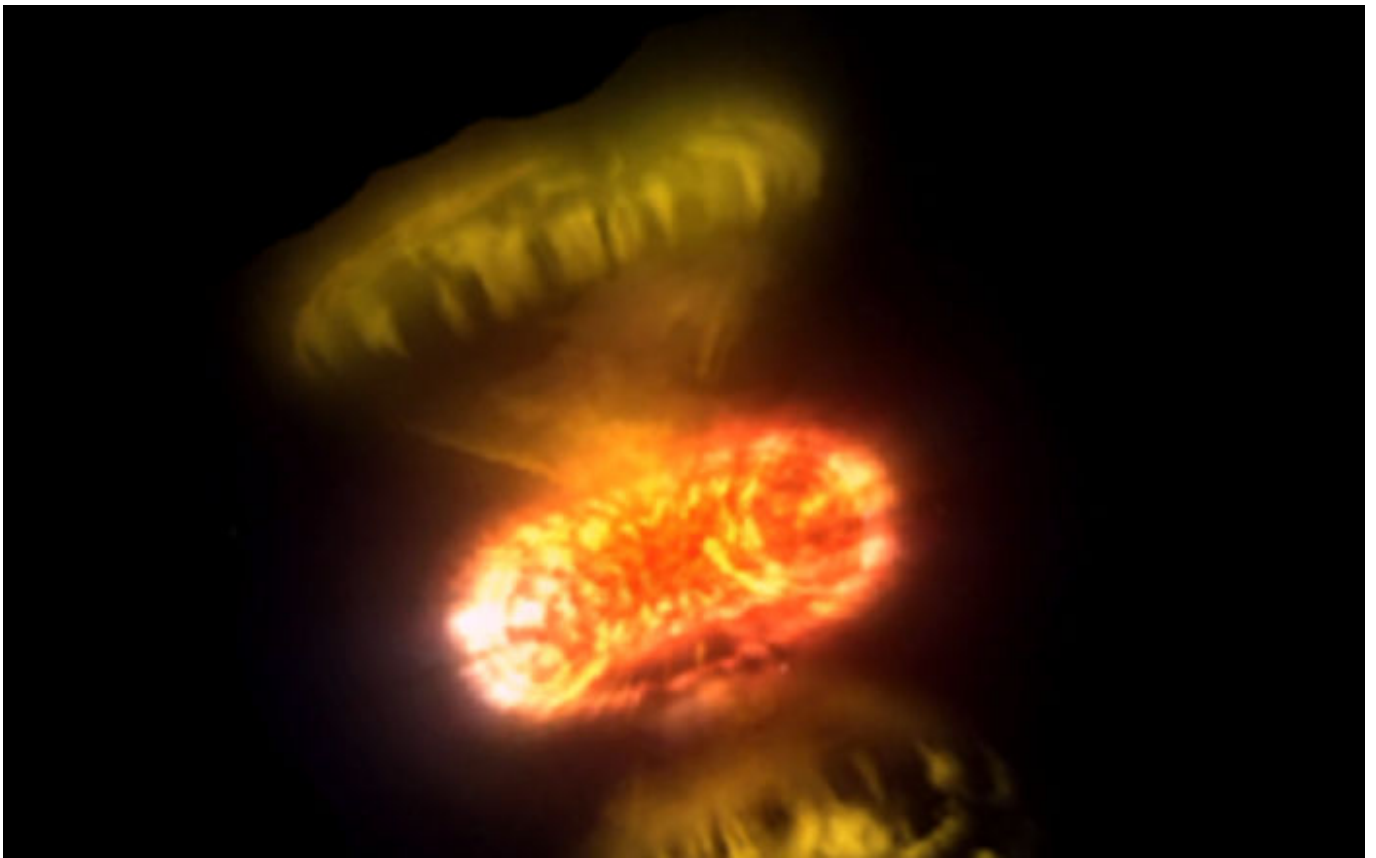


A distant stellar explosion has offered astronomers a rare natural experiment, one that turns gravity into a powerful optical tool. The object, known as SN 2025wny, appears not once but four times in the sky, its light split and magnified by a massive foreground galaxy. The result resembles a cosmic hall of mirrors and provides a new way to study how the universe expands.

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“New images reveal an early-

stage stellar eruption (nova) in stunning detail”



A classical nova may look simple at first. A faint star brightens, sometimes enough for you to spot without a telescope, then slowly dims over weeks or months. Behind that short burst of light sits a white dwarf in a tight orbit with a partner star. The white dwarf pulls in hydrogen from its neighbor until a runaway nuclear reaction ignites. The outer layer swells, and the system releases a wave of energy that

should blow gas into space.

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“Parker Solar Probe spots solar wind ‘U-turn’”



A year ago tomorrow, NASA’s Parker Solar Probe made its record-breaking closest approach to the sun. And the images it captured have now revealed new details about how magnetic fields responsible for space weather escape from the sun ... and how sometimes they don’t.

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“At 50 million-light-years long, scientists discover one of the universe’s largest structures”



Look up on a dark night and the stars seem scattered at random. Step back in scale, though, and the Universe looks nothing like a loose dusting. On its largest stretches, matter

forms a vast web. Thick clusters rise where threads meet. Long filaments bind them together. Immense voids lie between, empty as oceans without water.

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“The Milky Way’s stars reveal a hidden history of two galaxies in one”



From your place inside the Milky Way, you are living within a galaxy that keeps a detailed chemical diary. Every star holds clues about when it formed and what the galaxy was like at the time. Over the past decade, data from the Gaia space telescope and massive sky surveys have given astronomers an unusually sharp view of those records. With millions of stars tracked for motion, age and composition, a strange pattern has stood out: the stars in the Milky Way's disc do not follow one smooth chemical trend.

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“The Christmas Tree cluster”



We'd be remiss to have the holiday season pass by without showcasing the lovely Christmas Tree cluster. The area of sky in this photo goes by a number of names, including the Christmas Tree cluster, the Cone nebula and NGC 2264. The image above shows a region of space about 30 light-years across. Astronomers at ESO's La Silla Observatory, in the Atacama Desert of Chile, captured this image.

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“Long-lasting gamma-ray burst is a unique puzzle”



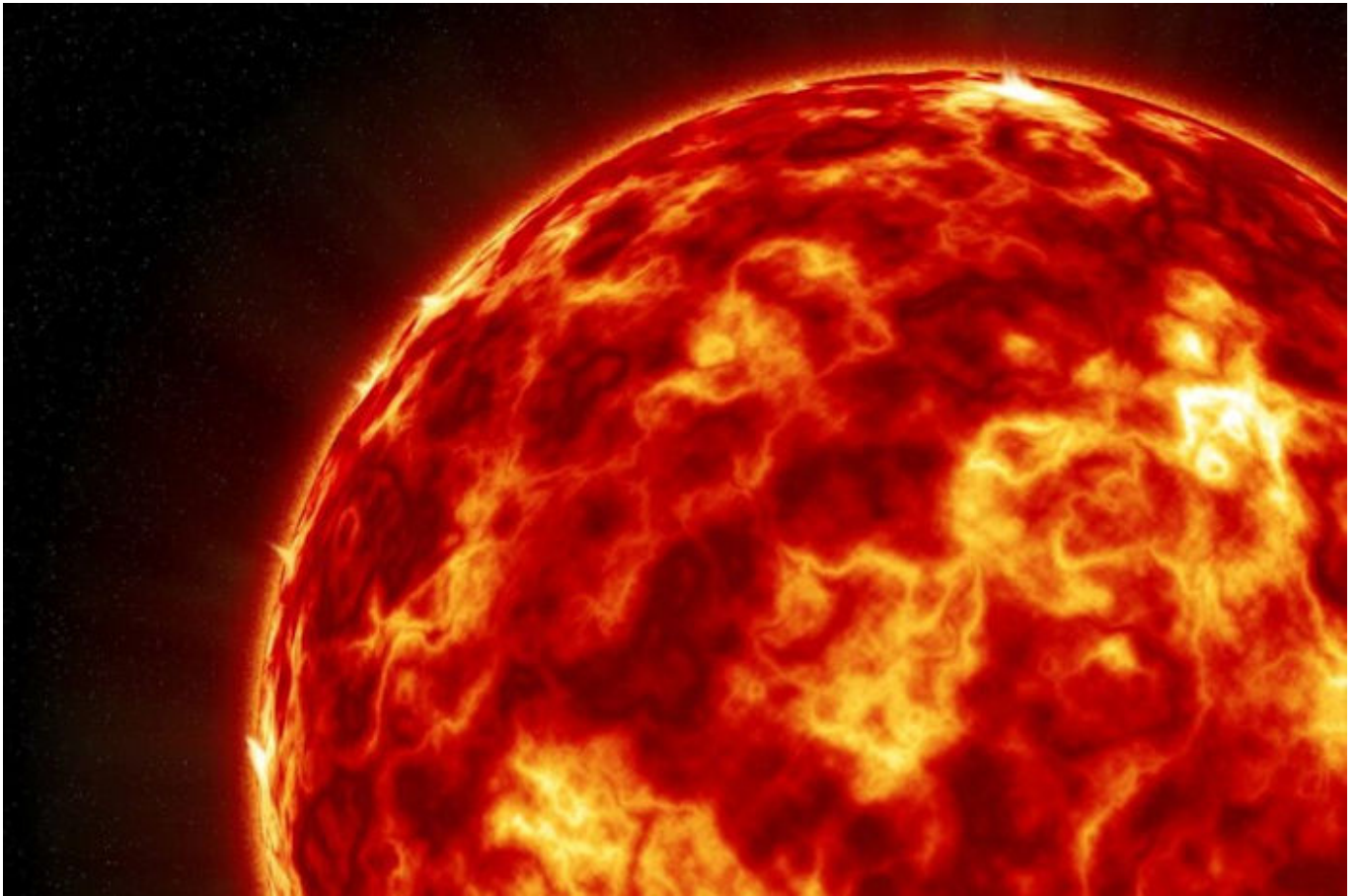
- Astronomers spotted a gamma-ray burst – named GRB 250702B – on July 2, 2025. It’s the longest gamma-ray burst ever recorded, lasting at least seven hours, nearly double the previous record.
- The rare, long-duration burst may reveal new ways to

create gamma-ray bursts. And it suggests there may be previously unseen types of cosmic explosions.

- **One explanation is that a black hole** about three times the sun's mass – with an event horizon just 11 miles (18 kilometers) across – merged with a companion star.

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“New evidence for monster stars from the cosmic dawn”

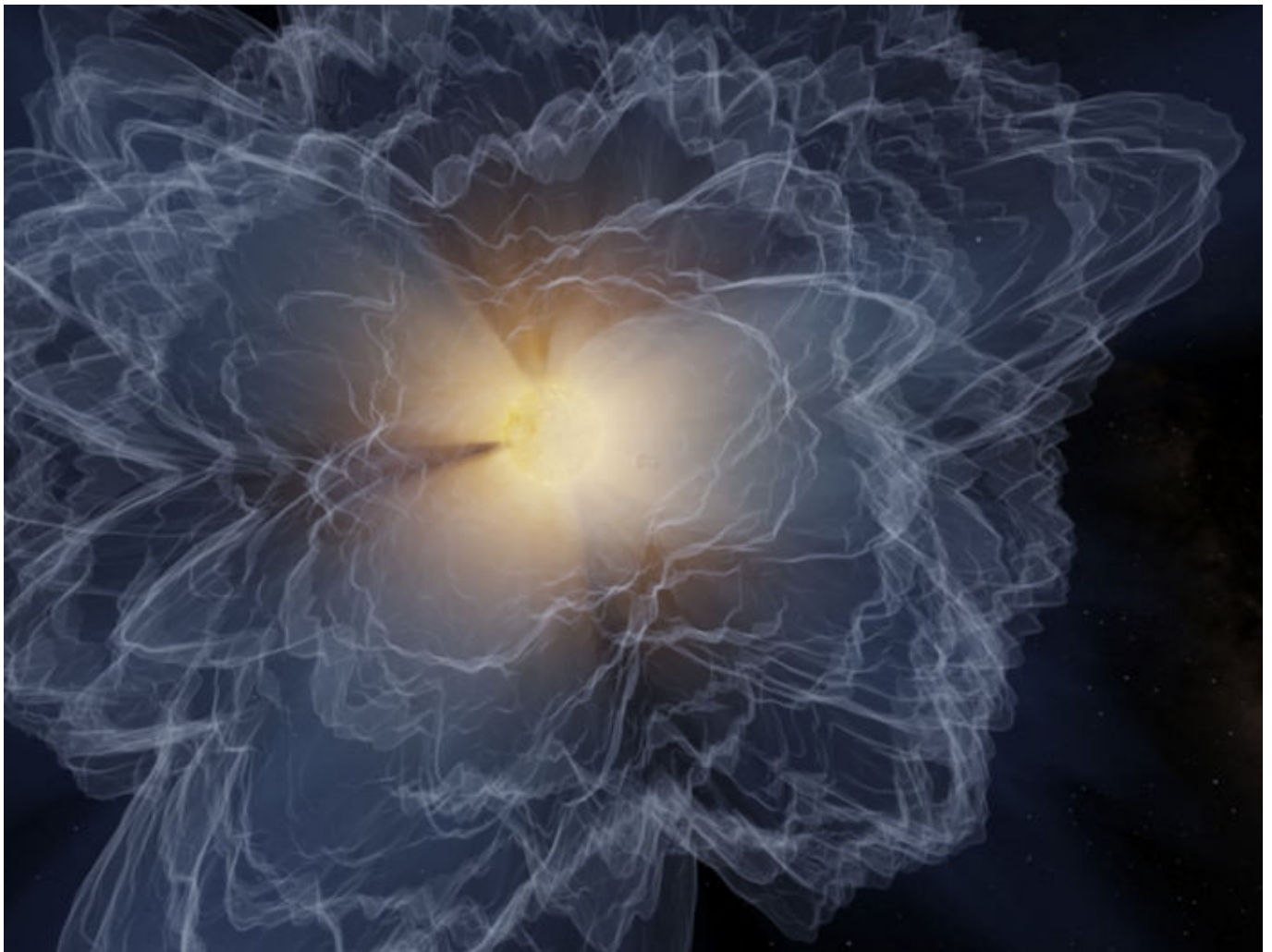


For 2 decades, astronomers have puzzled over how supermassive black holes already existed less than a billion years after the Big Bang. If these black holes formed from collapsed stars, the stars would have needed to be dramatically more massive than any we've ever observed.

And now, astronomers say they've found the 1st strong evidence that such colossal stars *did* exist.

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“Astronomers create 1st map of the sun’s outer boundary”



Astronomers have produced the first continuous, 2-dimensional maps of the outer edge of the sun’s atmosphere, a shifting, frothy boundary that marks where solar wind escapes the sun’s magnetic grasp. By combining the maps and close-up

measurements, scientists from the Harvard Smithsonian Center for Astrophysics (CfA) showed that the boundary grows larger, rougher and spikier as the sun becomes more active.

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