

# Admire stunning images showing the strange phenomenon of the Serpens Nebula

Another beautiful new image was sent back from the world's most modern Space Telescope system James Webb, showing the famous Serpens Nebula.

Another stunning new image from the world's most advanced James Webb Space Telescope shows the famous Serpens Nebula, a region of dense star formation where new stars are colliding, continuously born amidst clouds of dust and gas. Unlike some other nebulae that are typically illuminated by radiation from stars, making them naturally luminous in observable wavelengths, Serpens is what is called a reflection nebula, so it only has may shine due to light reflected from other sources.



In addition to being visually impressive, this image also helps astronomers learn about a special phenomenon related to newborn stars. When stars first form, they begin as objects called protostars, and these protostars can emit powerful jets of gas, flowing from their north and south poles.

When this gas escaping the protostar collides with nearby dust and gas, it creates a shock wave (visible in the upper left of the image). The red streaks of hydrogen molecules represent these shock wave flows, and one thing that's immediately noticeable is that they're all tilted at an angle. This is the first time such a beam alignment phenomenon has been observed.

Normally, protostars will have gas flowing out in all different directions. So the strange discovery in the image above suggests that something special is going on in this region, and is directly affecting young stars in the process of formation.

According to initial observations of astronomers, there are a number of forces capable of changing the direction of the escaping gas streams during this period of a young star's life. One theory is that when binary stars rotate around each other and wobble in direction, deflecting the flow of gas and dust over time.

To learn more about the Serpens Nebula, scientists plan to further use James Webb's NIRSpec instrument to understand what the cloud is made of. Hopefully there will be more interesting information announced in the near future.

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