



## Butterfly Nebula

The colorful, wing-like shapes of NGC 6302 give it the common name of “Butterfly Nebula” or “Bug Nebula.” The object’s distinctive wings were created when one or multiple stars at its center periodically cast off their outer layers of gas over the past couple thousand years. These regions of gas are hotter than 36,000 degrees Fahrenheit and are three light-years in width! The central stars beam ultraviolet radiation that makes the cast-off material appear to glow. The Butterfly Nebula is located between 2,500 and 3,800 light-years away in the constellation Scorpius.

This near-ultraviolet to near-infrared image highlights a newly discovered pattern of near-infrared emission that traces an S shape from the lower left to the upper right of the nebula, passing through the central star system. This emission line comes from ionized iron, a heavy element created as the star system undergoes nuclear fusion. The S-shaped gas is traveling much faster than the surrounding gaseous emissions, which are traveling at speeds upwards of 600,000 miles per hour!

**Hubble Space Telescope – Wide Field Camera 3**  
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