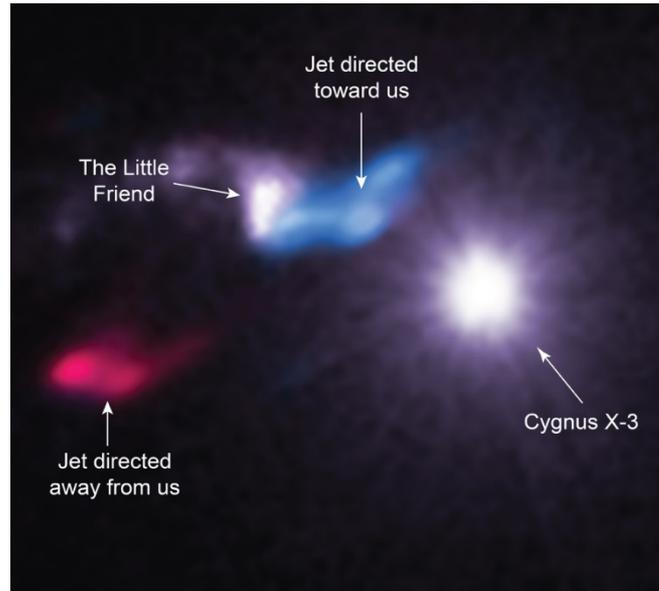




Chandra Science Highlight

Cygnus X-3 and Its Little Friend: Snapshot of a Stellar Life Cycle



- Cygnus X-3 is a strong X-ray source powered by accretion from a massive companion star onto a neutron star or black hole.
- LF is a Bok globule, small dense molecular cloud of the type known to be the site of the formation of stars. The X-rays from LF are due to scattering of radiation from Cygnus X-3.
- The CO emission is from an outflow generated by a protostar in the LF cloud.
- The image shows both a beginning (LF) and an end (Cygnus X-3) point of the life cycle of stars.

Scale: Image is 1.4 arcmin across (about 8.5 light years)

Distance Estimate: About 20,000 light years

A composite image created from Chandra X-ray data (purple and white) and submillimeter carbon monoxide (CO) emission detected by the Submillimeter Array (red and blue). The bright source on the right is Cygnus X-3. The source on the left is known as the Little Friend (LF). The submillimeter image reveals jets of gas moving toward (blue) and away from (red) Earth.

Credit: NASA/CXC/SAO/M. McCullough et al.

Submillimeter: ASIAA/SAO/SMA

Reference: : McCollough, M. et al., 2016, ApJL 830, L36;
arXiv:1610:01923

**CXC Operated for NASA by the
Smithsonian Astrophysical Observatory**



November 2016