



**Chandra X-ray
Observatory Center**

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SPT 0346-52: A galaxy undergoing extreme star formation about 12.7 billion light years from Earth. (Credit: X-ray: NASA/CXC/Univ of Florida/J.Ma et al; Optical: NASA/STScI; Infrared: NASA/JPL-Caltech; Radio: ESO/NAOJ/NRAO/ALMA; Simulation: Simons Fdn./Moore Fdn./Flatiron Inst./Caltech/C. Hayward & P. Hopkins)

Caption: Using several telescopes including Chandra, astronomers have shown that a galaxy in the early Universe called SPT0346-52 is undergoing an extraordinary burst of star formation. This graphic shows a frame from a computer simulation (main image) of such a burst following a galactic merger and data from Chandra, Spitzer, ALMA, and Hubble of the distant galaxy (inset). The absence of X-rays from Chandra (blue) in the inset shows that there is no actively growing, supermassive black hole in the center of the galaxy. This means that the rate amount of infrared emission detected by other telescopes can only be explained by an extremely high rate of star formation.

Scale: Image is 46 arcsec across (about 900,000 light years)

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory