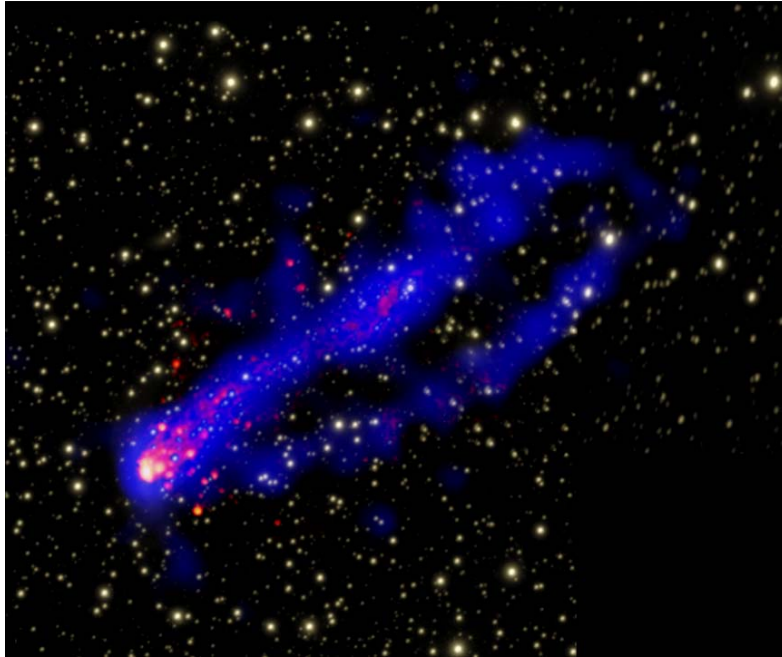




Chandra Science Highlight

ESO 137-001: X-ray Tails from Galaxy Plunging into the Core of the Galaxy Cluster A3627



Scale: Image is 5 arc min across Chandra X-ray Observatory ACIS

Distance Estimate: About 230 million light years

This composite image shows two long tails of X-ray emitting gas trailing behind the galaxy ESO 137-001 (bright region at the head of the tail). X-rays detected by Chandra are in blue, broadband optical emission in yellow and optical H-alpha emission from hydrogen atoms in red.

- The tails are produced by gas stripped from the galaxy as it moves through the hot gas in the central regions of the galaxy cluster A3627.
- The brightest tail extends for about 260,000 light years.
- The double tail structure may have been produced by the stripping of gas from the two major spiral arms in the galaxy.
- Stripping of gas from galaxies can affect the evolution of the galaxy by removing the raw material for star formation.
- The H-alpha and X-ray data show evidence for star formation in the tails – the first unambiguous evidence that star formation can occur in gas stripped from galaxies.

Reference: Sun, M., et al, 2010, *Astrophys.J.* 708, 946

Credits: X-ray: NASA/CXC/Uva/M. Sun, et al; H-alpha/Optical: SOAR (Uva/NOAO/UNC/CNPg-Brazil)/M. Sun et al.