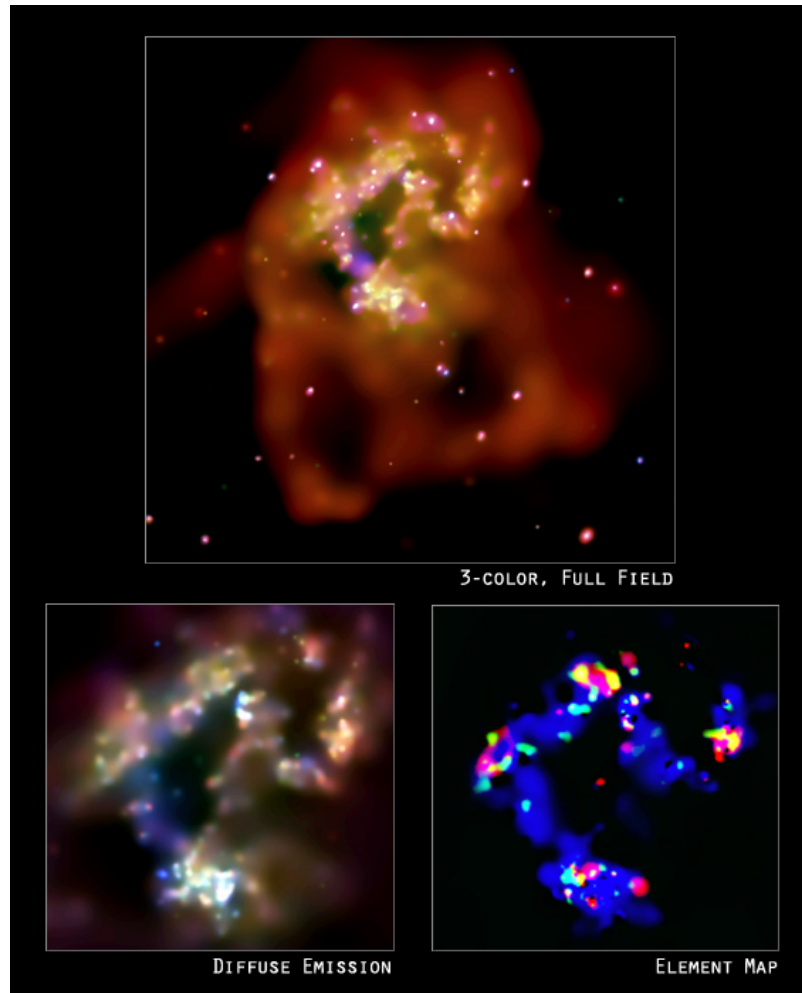




Chandra Science Highlight

The Antennae: Chandra Locates Mother Lode of Heavy Elements in Colliding Galaxies



This montage of Chandra images shows a full field X-ray view of the left Antennae (top), and a closeup of the system's central region (Lower left). These images are color coded to show low (red), medium (green) and high (blue) energy X-rays produced by huge clouds of gas heated to millions of degrees by the collision. The Chandra image at the lower right is processed and color-coded to show rich deposits of iron (red), magnesium (green) and silicon (blue) elements.

- For the first time, intense X-ray line emission is detected from Fe, Ne, Mg, and Si in The Antennae.
- These observations provide a detailed picture of spatially varied abundances of these elements in the hot interstellar medium of a galaxy.
- This Chandra image is remarkable in that it shows hot gas clouds in which magnesium and silicon are 16 and 24 times as abundant as in the Sun.
- The enriched areas are correlated with regions having high rates of star formation, and consequently high rates of supernovas. It is likely that supernovas dispersed large amounts of heavy elements into the surrounding space, producing the observed enrichment.

Reference: G Fabbiano et al, *Astrophysical J. Letters* (in press, 2004); also, astro-ph/0401241