



Chandra Science Highlight

Stephan's Quintet: A Compact Group of Galaxies about 280 Million Light Years from Earth

Chandra X-ray Observatory ACIS Image.



In the upper left a Chandra X-ray Observatory image (blue) is superimposed on a Digitized Sky Survey optical image (yellow). The group consists of the galaxies A, B, C, D and E shown in the wide field optical image. The large-appearing galaxy F in the lower left of this image is a foreground galaxy, and is not part of the group.

- The X-ray image shows gas heated by a shock wave produced by a spiral galaxy (B) moving through the intergalactic gas in the group at more than 1000 km/s.
- The relatively low gas temperature of 6 MK could be an indication that the intergalactic gas was preheated, presumably by previous encounters.
- In Stephan's Quintet collisions of the galaxies with each other and with the hot gas are stripping cool gas from spiral galaxies and transforming them into elliptical galaxies.

Reference: G. Trinchieri et al. 2003 *Astron. & Astrophys.* (in press) astro-ph 0302590

Credit: X-ray: NASA/CXC/INAF-Brera/G.Trinchieri et al.; Optical: Pal.Obs. STScI DSS)