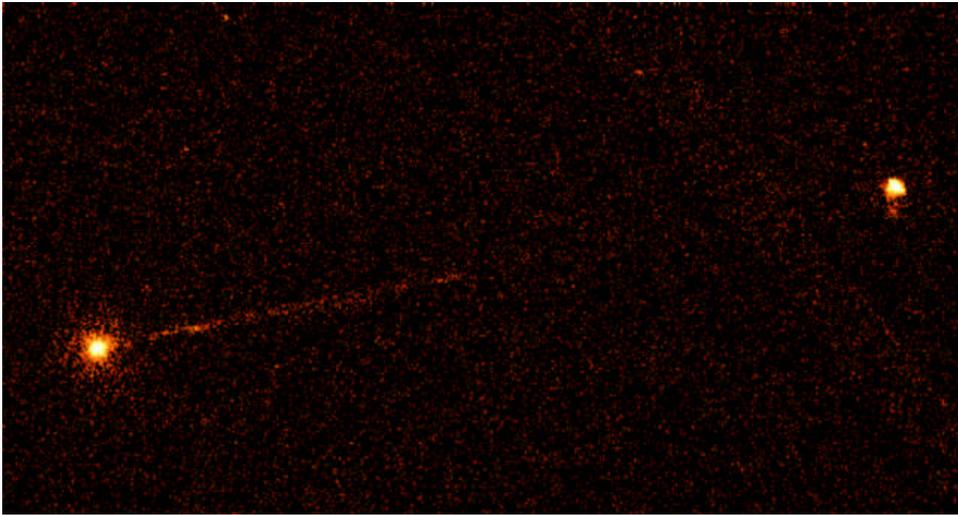




# Chandra Science Highlights

## **X-ray jet and hot spot in Pictor A, the brightest radio galaxy in the Constellation Pictor**



*Scale: the hot spot is 4.2 arcminutes from the galaxy.*

The Chandra X-ray image of Pictor A shows a jet that emanates from the center of the galaxy (left) and extends across 110 kpc toward a brilliant hot spot 240 kpc away. The hot spot is thought to represent the advancing head of the jet, which brightens conspicuously where it plows into the tenuous gas of intergalactic space

Credit: NASA/UMD/A.Wilson et al.

Reference: A.Wilson et al. (AAS 196, #34.14)

- The jet is resolved to be 2 arcsec in diameter, implying that the jet is collimated to less than one degree of arc.
- The most likely origin for the x-rays is synchrotron emission from a population of extremely relativistic electrons that is different from those that produce the radio jet. The radiative lifetimes of the x-ray producing electrons are less than a hundred years.

June 2000