



**Chandra X-Ray  
Observatory Center**

Harvard-Smithsonian Center for Astrophysics  
60 Garden Street, Cambridge, MA 02138  
<http://chandra.harvard.edu>

**Arp 220:** A starburst galaxy about 250 million light years away in the constellation Serpens.  
**Credit:** NASA/SAO/CXC/J.McDowell

Chandra's observation of the peculiar galaxy Arp 220 gives new insight into what happens when two galaxies the size of the Milky Way collide. The image shows a bright central region at the waist of a glowing hour-glass-shaped cloud of hot gas heated by explosive activity related to the formation of hundreds of millions of new stars. Further out are giant lobes of hot gas which could be galactic remnants flung into intergalactic space by the early impact of the collision. In the central region two X-ray sources which may be due to central massive black holes in the pre-merger galaxies were identified. These black holes could merge over a period of a few hundred million years to produce a larger, supermassive black hole in the center of the conglomerate galaxy.

**Scale:** Image is 2 arcmin per side.  
*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*