



**Chandra X-Ray  
Observatory Center**

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**NGC 4636:** An elliptical galaxy about 50 million light years from Earth located in the constellation Virgo.  
**Credit:** NASA/SAO/CXC/C.Jones et al.

This Chandra image of NGC 4636 shows symmetric arms, or arcs, of 10 million degree gas extending 25,000 light years into a cloud of hot gas that surrounds the galaxy. The length and shape of the arms, along with their temperature which is hotter than the surrounding gas cloud, suggest that they are the leading edge of a galaxy-sized shock wave that is racing outward from the center of the galaxy at 700 kilometers per second. The initial outburst is thought to have been triggered by gas falling into a central massive black hole.

*Chandra X-ray Observatory ACIS Image*