



**Chandra X-ray  
Observatory Center**

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**Abell 1758:** A galaxy cluster located about 3.2 billion light years from Earth.  
(Credit: X-ray (NASA/CXC/SAO/M.Markevitch); Radio (TIFR/GMRTSAO/INAF/R.Cassano,  
S.Giacintucci); Optical (DSS))

**Caption:** This is a composite image of the northern part of the galaxy cluster Abell 1758 showing the effects of a collision between two smaller galaxy clusters. Chandra X-ray data (blue) reveal hot gas in the cluster and data from the Giant Metrewave Radio Telescope (GMRT) in India (pink) shows huge "halos" generated by ultra-relativistic particles and magnetic fields over vast scales. Optical data from the Digitized Sky Survey are colored gold. A study of this galaxy cluster and 31 others with Chandra and the GMRT shows that huge radio halos are generated during collisions between galaxy clusters.

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*

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