



**Chandra X-ray
Observatory Center**

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The Arches Cluster: A cluster of young stars located in the central region of the Milky Way Galaxy about 26,000 light years from Earth.

(Credit: X-ray: NASA/CXC/Northwestern/F.Zadeh et al., IR: NASA/HST/NICMOS, Radio: NRAO/AUI/NSF/C.Lang)

Caption: The Chandra observation of the Arches shows an envelope of 60 million degree gas around the star cluster. The X-ray data, shown as the diffuse blue emission in the inset box, overlays a Hubble Space Telescope infrared image of the same region, in which some of the individual stars in the cluster can be seen as point-like sources. Both the X-ray and infrared observations are shown in context of the spectacular filamentary structures that appear in radio wavelengths displayed in red. This compact cluster is composed of hot, massive stars that live short, furious lives lasting only a few million years. During this period, gas evaporates from these stars in the form of intense stellar winds. The envelope of hot gas observed by Chandra is thought to be due to collisions of the winds from numerous stars.

Scale: Inset box of X-ray and IR (blue): 0.6 arcminutes on each side. Background red radio: 8 arcmin across. by 9.6 arcmin top to bottom.

Chandra X-Ray Observatory ACIS image

CXC operated for NASA by the Smithsonian Astrophysical Observatory