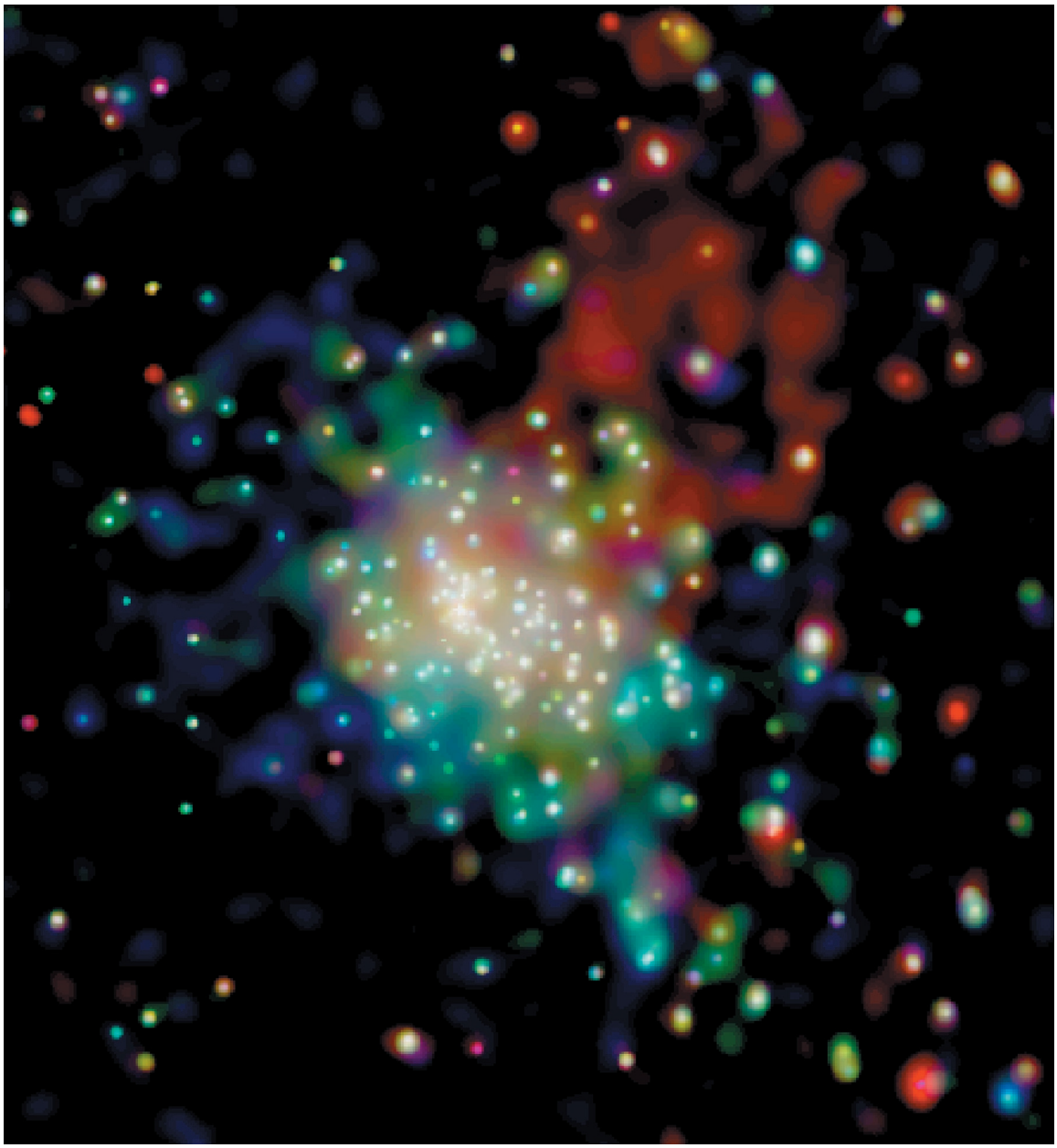

Chandra X-Ray Observatory Center

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RCW 38: A young star cluster 6000 light years from Earth in the constellation Vela.
Credit: NASA/CXC/CfA/S.Wolk et al.

This Chandra image covers a region about 5 light years across and shows many young stars with hot upper atmospheres. In addition to the point-like emission from the stars, the image revealed a diffuse cloud enveloping the star cluster. The X-ray spectrum of the cloud shows an excess of high-energy X-rays. This excess indicates that these X-rays come from trillion-volt electrons moving in a magnetic field. The presence of these extremely energetic particles could dramatically change the chemistry of the disks that will eventually form planets around stars in the cluster. Evidence in the form of short-lived radioactive nuclei found in meteorites suggests that our solar system was immersed for a time in a sea of energetic particles.

Scale: Image is 8.1 arcmin on a side.
Chandra X-ray Observatory ACIS Image