



**Chandra X-ray  
Observatory Center**

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**Orion Nebula:** A rich cluster of young stars about 1,500 light years from Earth.  
(Credit: NASA/CXC/Penn State/E.Feigelson & K.Getman et al.)

**Caption:** This Chandra image was produced by observing the Orion Nebula almost continuously for 13 days. The long observation enabled scientists to study the X-ray behavior of young Sun-like stars with ages between 1 and 10 million years. They discovered that these young stars produce violent X-ray outbursts, or flares, that are much more frequent and energetic than anything seen today from our 4.6 billion-year-old Sun. The range of flare energies is large, with some of the stars producing flares that are a hundred times larger than others. Theoretical work indicates that intensely flaring stars would create strong turbulence in any planet-forming disks around these stars and lead to the formation of planetary systems similar to our solar system.

**Scale:** X-ray image is 5.5 arcmin per side.

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*

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