



**Chandra X-ray  
Observatory Center**

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**CL J1001:** A galaxy cluster located about 11.1 billion light years from Earth.  
(Credit: X-ray: NASA/CXC/Université Paris/T.Wang et al; Infrared: ESO/UltraVISTA; Radio: ESO/NAOJ /NRAO/ALMA)

**Caption:** The galaxy cluster CL J1001+0220 is the most distant galaxy cluster ever discovered and may have been caught right after birth, a brief, but important stage of cluster evolution never seen before. This composite shows CL J1001+0220 in X-rays from Chandra (purple), infrared data from the UltraVISTA telescope (red, green, and blue), and radio waves from ALMA (green). The discovery of this object pushes back the formation time of galaxy clusters – the largest structures in the Universe held together by gravity – by about 700 million years.

**Scale:** Image is 2.17 arcmin across (about 4.36 million light years)

*Chandra X-ray Observatory ACIS Image*

*CXC operated for NASA by the Smithsonian Astrophysical Observatory*

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