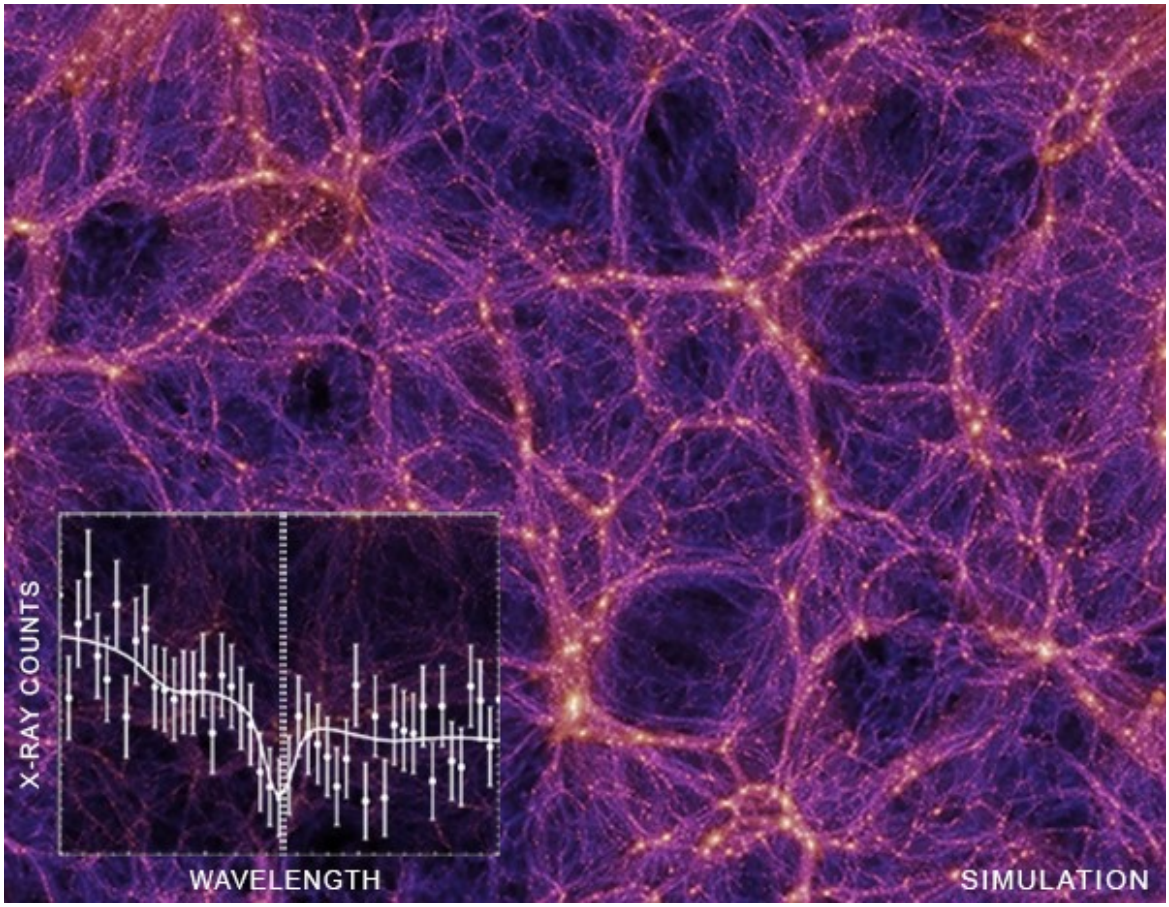

Chandra X-ray Observatory Center

Harvard-Smithsonian Center for Astrophysics
60 Garden St. Cambridge, MA 02138 USA
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H1821+643: A quasar located about 3.4 billion light years from Earth.
(Credit: Illustration: Springel et al. (2005); Spectrum: NASA/CXC/CfA/Kovács et al.)

Caption: Astronomers have used Chandra to possibly identify the location of a third of the hydrogen, helium, and other elements that were created after the Big Bang, but has so far been unaccounted for in the present-day Universe. This “missing mass” may be in large filaments of warm and hot gas known as the WHIM. The plot on this graphic shows the signature of how X-rays from a distant quasar have been absorbed by gas in these filaments. It has been overlaid on a still from the Millenium simulation that formulates how key components of the Universe, including the WHIM, evolved over time.

Chandra X-ray Observatory ACIS /ACIS-LETG Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory