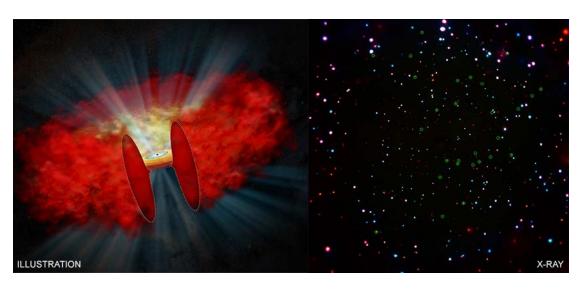# Chandra Science Highlight

## A Large Population of Obscured AGN in Disguise as Low Luminosity AGN in the Chandra Deep Field South



**Caption:** A total of 28 heavily obscured AGN are labelled with green circles in this X-ray image of the Chandra Deep Field-South (right), where red, green, and blue represent the low, medium, and high-energy X-rays that Chandra detects. The artist's illustration (left) depicts how these AGN are wrapped in cocoons of material, making it difficult to accurately identify them. A piece of the cocoon is cut out to show a black hole in the middle of a disk of material falling inwards.

- Astronomers have identified 28 heavily obscured AGN in the Chandra Deep Field-South that were previously classified as low luminosity AGN.

- This result combined Chandra data with data from several other telescopes including NASA's Hubble and Spitzer Space Telescopes.

- The discovery captures an important phase of growth for supermassive black holes, and helps explain a component of the X-ray background previously unaccounted for.

**Distance estimate:** About 5.4 to 11 billion light years

**Scale**: Image is about 16 arcmin across (about 26 million light years assuming distance is 11 billion light years).

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**Credit:** NASA/CXC/Penn State/B. Luo et al; Illustration: NASA/CXC/M. Weiss

**Instrument:** ACIS

**Reference:** Lambrides, E., et al, 2020, ApJ, 897, 160; arXiv:2002.00955

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