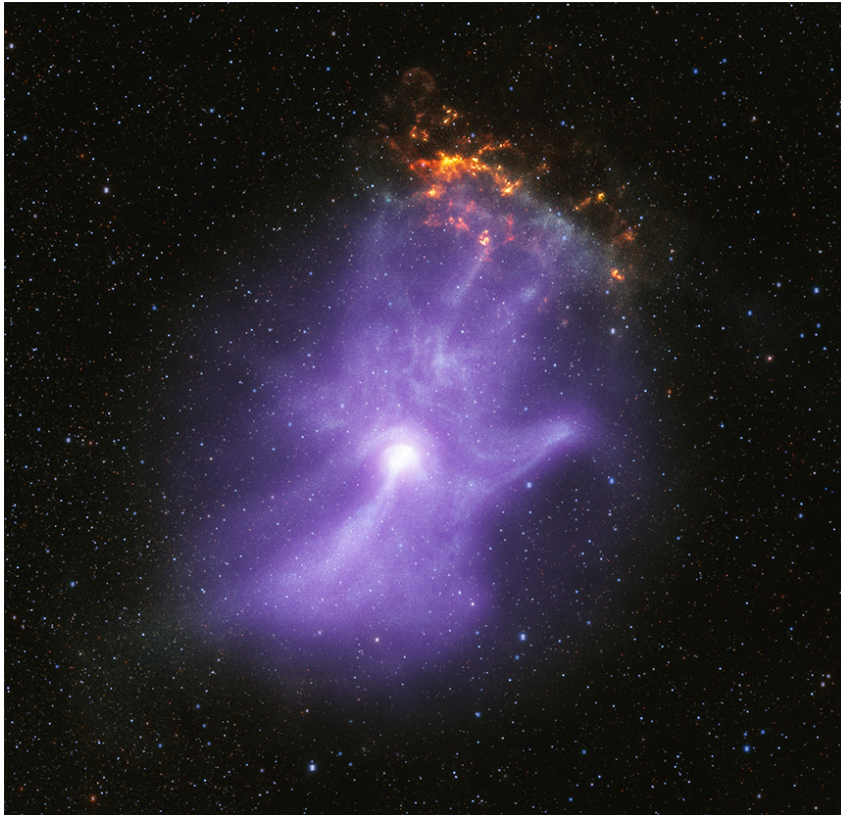




Chandra Science Highlight '

X-ray Telescopes Reveal the "Bones" of a Ghostly Cosmic Hand &



Caption: In a new composite image of the pulsar wind nebula MSH 15-52, Chandra data are seen in orange (low-energy X-rays), green (medium-energy X-rays), and blue (high-energy X-rays), while the diffuse purple represents the IXPE data. The pulsar is in the bright region at the base of the palm and the fingers are reaching toward low energy X-ray clouds in the surrounding remains of the supernova that formed the pulsar. The image also includes infrared data from DECaPS2 in red and blue.

- NASA's Chandra X-ray Observatory and Imaging X-ray Polarimetry Explorer (IXPE) data have been used to examine the pulsar wind nebula known as MSH 15-52.
- Pulsar wind nebulae are clouds of energetic particles created by pulsars, which are rotating neutron stars with strong magnetic fields.
- From previous Chandra observations, MSH 15-52 is well-known for its spectacular shape that resembles a human hand.
- The IXPE data provides the first map of the magnetic field in the 'hand', and the Chandra data provides the sharpest X-ray view of the nebula.

Distance estimate: 16,000 light-years

Credits: X-ray: NASA/CXC/Stanford Univ./R. Romani et al. (Chandra); NASA/MSFC (IXPE); Infrared: NASA/JPL-Caltech/DECaPS; Image Processing: NASA/CXC/SAO/J. Schmidt

Instrument: ACIS

Reference: Romani, R. et al., 2023, ApJ, 957, 23
<https://iopscience.iop.org/article/10.3847/1538-4357/acfa02>

The CXC is operated for NASA by the Smithsonian ' Astrophysical Observatory '



October 2023 '