Astronomers using NASA’s Chandra X-ray Observatory have discovered an important type of titanium, along with other elements, blasting out from the center of the supernova remnant Cassiopeia A (Cas A). This result could be a major step for understanding exactly how some of the most massive stars explode. The different colors in this new image mostly represent elements detected by Chandra in Cas A: iron (orange), oxygen (purple), and the amount of silicon compared to magnesium (green). Titanium (light blue) detected previously by NASA’s NuSTAR telescope at higher X-ray energies is also shown. These Chandra and NuSTAR X-ray data have been overlaid on an optical-light image from the Hubble Space Telescope (yellow).

Credit: Chandra: NASA/CXC/RIKEN/T. Sato et al.; NuSTAR: NASA/NuSTAR; Hubble: NASA/STScI