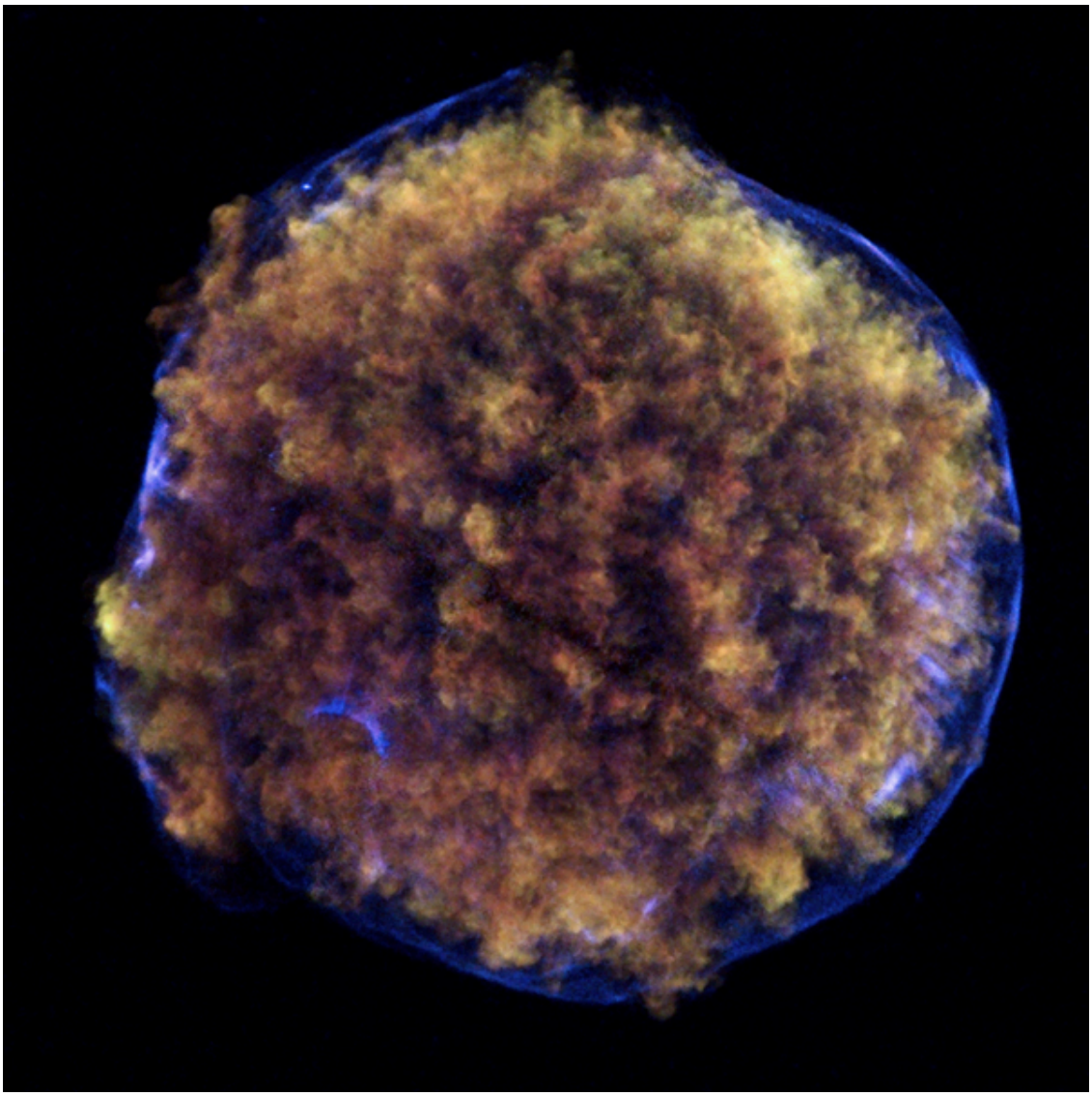

Chandra X-ray Observatory Center

Harvard-Smithsonian Center for Astrophysics
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Tycho's Supernova Remnant: A supernova remnant named after the Danish astronomer who observed it in 1572.
(Credit: NASA/CXC/Chinese Academy of Sciences/F. Lu et al)

Caption: This Chandra image of the Tycho supernova remnant contains new evidence for what triggered the original supernova explosion. Tycho was formed by a Type Ia supernova, a category of stellar explosion used in measuring astronomical distances because of their reliable brightness. In the lower left region of Tycho is a blue arc of X-ray emission. Several lines of evidence support the conclusion that this arc is due to a shock wave created when a white dwarf exploded and blew material off the surface of a nearby companion star. This supports one popular scenario for the trigger of a Type Ia supernova. Understanding the origin of Type Ia supernovas is important because they have been used to determine that the Universe is expanding at an accelerating rate.

Scale: Image is 10 arcmin across

Chandra X-ray Observatory ACIS Image

CXC operated for NASA by the Smithsonian Astrophysical Observatory