

Preview of a forthcoming supernova

February 27 2012



Credit: ESA/NASA

(PhysOrg.com) -- NASA's Hubble Telescope captured an image of Eta Carinae. This image consists of ultraviolet and visible light images from the High Resolution Channel of Hubble's Advanced Camera for Surveys. The field of view is approximately 30 arcseconds across.

The larger of the two stars in the Eta Carinae system is a huge and

unstable star that is nearing the end of its life, and the event that the 19th century astronomers observed was a stellar near-death experience. Scientists call these outbursts supernova impostor events, because they appear similar to supernovae but stop just short of destroying their star.

Although 19th century astronomers did not have telescopes powerful enough to see the 1843 outburst in detail, its effects can be studied today. The huge clouds of matter thrown out a century and a half ago, known as the Homunculus Nebula, have been a regular target for Hubble since its [launch](#) in 1990. This image, taken with the [Advanced Camera for Surveys High Resolution Channel](#), is the most detailed yet, and shows how the material from the star was not thrown out in a uniform manner, but forms a huge dumbbell shape.

Eta Carinae is one of the closest stars to Earth that is likely to explode in a supernova in the relatively near future (though in astronomical timescales the "near future" could still be a million years away). When it does, expect an impressive view from Earth, far brighter still than its last [outburst](#): SN 2006gy, the brightest supernova ever observed, came from a star of the same type, though from a galaxy over 200 million light-years away.

Provided by JPL/NASA

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