



Celestial Fireworks from Dying Stars

13 April 2011

This image of the nebula NGC 3582, which was captured by the Wide Field Imager on the MPG/ESO 2.2-metre telescope at ESO’s La Silla Observatory in Chile, shows giant loops of gas bearing a striking resemblance to solar prominences. These loops are thought to have been ejected by dying stars, but new stars are also being born within this stellar nursery. These energetic youngsters emit intense ultraviolet radiation that makes the gas in the nebula glow, producing the fiery display shown here.

NGC 3582 is part of a large star-forming region in the Milky Way, called RCW 57. It lies close to the central plane of the Milky Way in the southern constellation of Carina (The Keel of Jason’s ship, the Argo). John Herschel first saw this complex region of glowing gas and dark dust clouds in 1834, during his stay in South Africa.

Some of the stars forming in regions like NGC 3582 are much heavier than the Sun. These monster stars emit energy at prodigious rates and have very short lives that end in explosions as supernovae. The material ejected from these dramatic events creates bubbles in the surrounding gas and dust. This is the probable cause of the loops visible in this picture.

This image was taken through multiple filters. From the Wide Field Imager, data taken through a red filter are shown in green and red, and data taken through a filter that isolates the red glow characteristic of hydrogen are also shown in red. Additional infrared data from the Digitized Sky Survey are shown in blue.

The image was processed by ESO using the observational data identified by Joe DePasquale, from the United States [1], who participated in ESO’s Hidden Treasures 2010 astrophotography competition [2]. The competition was organised by ESO in October–November 2010, for everyone who enjoys making beautiful images of the night sky using astronomical data obtained using professional telescopes.

Notes

[1] Joe searched through ESO’s archive and identified datasets that he used to compose his image of NGC 3582, which was the tenth highest ranked entry in the competition, out of almost 100 entries. His original work can be seen here.(<http://www.flickr.com/photos/45615208@N02/5201711319/>)

[2] ESO’s Hidden Treasures 2010 competition gave amateur astronomers the opportunity to search through ESO’s vast archives of astronomical data, hoping to find a well-hidden gem that needed polishing by the entrants. To find out more about Hidden Treasures, visit <http://www.eso.org/public/outreach/hiddentreasures/>(<http://www.eso.org/public/outreach/hiddentreasures/>).

More information

ESO, the European Southern Observatory, is the foremost intergovernmental astronomy organisation in Europe and the world’s most productive astronomical observatory. It is supported by 15 countries: Austria, Belgium, Brazil, the Czech Republic, Denmark, France, Finland, Germany, Italy, the Netherlands, Portugal, Spain, Sweden, Switzerland and the United Kingdom. ESO carries out an ambitious programme focused on the design, construction and operation of powerful ground-based observing facilities enabling astronomers to make important scientific discoveries. ESO also plays a leading role in promoting and organising cooperation in astronomical research. ESO operates three unique world-class observing sites in Chile: La Silla, Paranal and Chajnantor. At Paranal, ESO operates the Very Large Telescope, the world’s most advanced visible-light astronomical observatory and VISTA, the world’s largest survey telescope. ESO is the European partner of a revolutionary astronomical telescope ALMA, the largest astronomical project in existence. ESO is currently planning a 42-metre European Extremely Large optical/near-infrared Telescope, the E-ELT, which will become “the world’s biggest eye on the sky”.

Links

- [Photos of the La Silla Observatory](http://www.eso.org/public/images/archive/category/lasilla/)(<http://www.eso.org/public/images/archive/category/lasilla/>)

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About the Release

Release No.:	eso1113
Name:	NGC 3582(https://simbad.u-strasbg.fr/simbad/sim-id?Ident=NGC+3582)
Type:	Milky Way : Nebula : Type : Star Formation
Facility:	MPG/ESO 2.2-metre telescope(http://www.eso.org/public/teles-instr/lasilla/mpg22/)
Instruments:	WFI(http://www.eso.org/public/teles-instr/lasilla/mpg22/wfi/)

Images



(<http://www.eso.org/public/images/eso1113a/>)