Telephone: +34 922 425400
Fax: +34 922 425401
Internet: http://www.ing.iac.es/

Apartado de Correos, 321
E-38700 Santa Cruz de La Palma
Canary Islands; SPAIN

Isaac Newton Group of Telescopes

The Isaac Newton Group of Telescopes is an establishment of the Particle Physics and Astronomy Research Council (PPARC) of the United Kingdom, the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO) of the Netherlands and the Instituto de Astrofísica de Canarias (IAC) in Spain

MEDIA RELEASE

Reference: ING Press Release, 27/03/2003
Date: Thursday 27 March 2003
Embargo: For immediate release
Internet: http://www.ing.iac.es/PR/press/ing12003.html
(Mirrored at http://www.ast.cam.ac.uk/ING/PR/press/ing12003.html)

SPECTACULAR VIEWS OF AN EXPLODING STAR

An astronomer from the Isaac Newton Group of Telescopes has obtained spectacular images of the star V838 Monocerotis which became the brightest in our Galaxy when it exploded in January 2002. One of the images will be highlighted on the front cover of the journal Nature on 27 March 2003 and in a research paper published in the same issue.

V838 Monocerotis erupted in January 2002 when in a few weeks its brightness increased by a factor of ten thousand. This enormous amount of energy suddenly produced by the star was observed shortly afterwards as an expanding giant light bubble. The phenomenon, called "light echo", is an extremely rare event. During a light echo we can see directly the motion of light as it expands away from the star and illuminates all the matter it encounters in its amazingly fast (300,000 kilometres per second!) journey.

One of the first detailed images of this light echo was obtained with the William Herschel Telescope on March 28, 2002. Images taken at successive dates using the Hubble Space Telescope revealed the expansion of the light echo as well as the complex structure of the dust and gas surrounding the star.

Dr. Romano Corradi, the Isaac Newton Group astronomer involved in this research project, comments: "At the time of the explosion V838 Monocerotis became temporarily the brightest star among the one hundred thousand million stars that form our own Galaxy, the Milky Way. We know that V838 Monocerotis is actually a system composed of two nearby stars, whose vicinity is likely to affect the evolution of each other leading to catastrophic consequences like transfer of gas from one to the other. However, the origin of the stellar explosion observed in 2002 is still mysterious and V838 Monocerotis is thought to represent a new class of stellar explosions."

The light echo will slowly disappear as the star is fading back to its previous quiescent state, but in its short lived existence (few years compared to a typical lifetime of a star of several billion years) will provide us crucial information to understand better how stars evolve in the Universe, and how they interact with each other.

The image is part of a research study carried out by the following team of astronomers: Howard E. Bond (Space Telescope Science Institute), Arne Henden (USRA & US Naval Observatory), Zoltan G. Levay (Space Telescope Science Institute), Nino Panagia (European Space Agency), William B. Sparks (Space Telescope Science Institute), Sumner Starrfield (Arizona State University), R. Mark Wagner (Large Binocular Telescope Observatory), Romano L. M. Corradi (Isaac Newton Group of Telescopes) and U. Munari (INAF-Osservatorio Astronomico di Padova).

The Isaac Newton Group of Telescopes (ING) is an establishment of the Particle Physics and Astronomy Research Council (PPARC) of the United Kingdom, the Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO) of the Netherlands and the Instituto de Astrofísica de Canarias (IAC) in Spain. The ING operates the 4.2 metre William Herschel Telescope, the 2.5 metre Isaac Newton Telescope, and the 1.0 metre Jacobus Kapteyn Telescope. The telescopes are located in the Spanish Roque de Los Muchachos Observatory on La Palma which is operated by the Instituto de Astrofísica de Canarias (IAC).

PICTURES AND MOVIES

Available at `http://www.ing.iac.es/PR/press/ing22003.html` (mirrored at `http://www.ast.cam.ac.uk/ING/PR/press/ing12003.html`) or by contacting Javier Méndez (see contact details below).

FOR FURTHER INFORMATION PLEASE CONTACT

Dr. Romano Corradi
Isaac Newton Group of Telescopes
Phone: +34 922 425 461
Fax: +34 922 425 401
E-mail: `rcorradi@ing.iac.es`

Mr. Javier Méndez
Public Relations Officer
Isaac Newton Group of Telescopes
Phone: +34 922 425 464, +34 616 464 111
Fax: +34 922 425 442
E-mail: `jma@ing.iac.es`

FOR FURTHER INFORMATION ON THE WEB

This material is being co-released with the European Space Agency (`http://hubble.esa.int/hubble/news/index.cfm?oid=32026`),

NASA/STScI/OPO (http://hubblesite.org/news/2003/10), Arizona State University, University of Arizona, the National Science Foundation and the Instituto de Astrofísica de Canarias (http://www.iac.es/gabinete/noicias/2003/m03d26.htm).

More information on the William Herschel Telescope:
http://www.ing.iac.es/PR/wht_info/

More information on the Isaac Newton Group of Telescopes (ING):
http://www.ing.iac.es/PR/