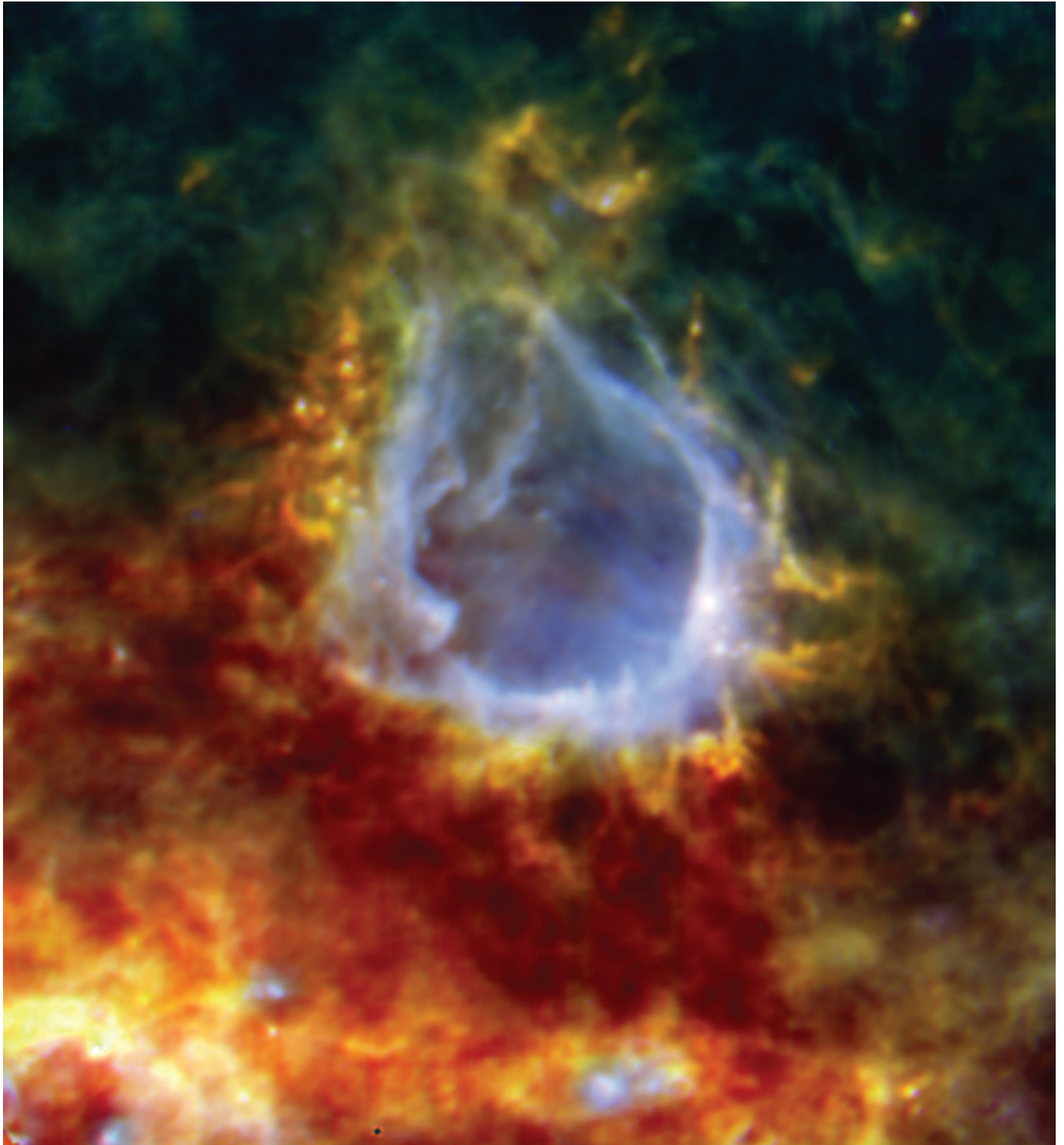


esa

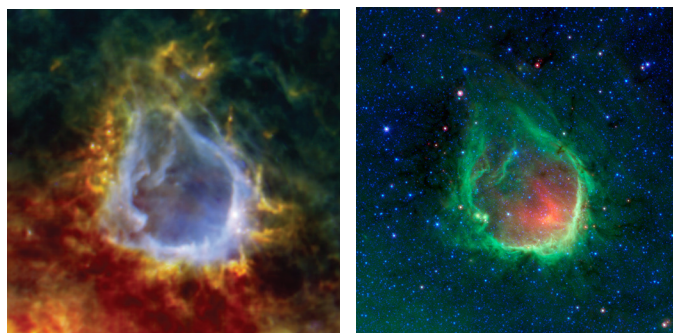


Ring in the Sky, RCW 120

Ring in the Sky

The Herschel Space Observatory observes in the far-infrared, which allows it to see cold gas and dust between the stars. But many of the greatest discoveries in astronomy have been achieved by combining observations from telescopes observing at different wavelengths.

NASA's Spitzer Space Telescope has observed in infrared a star-forming region that goes by the name of RCW 120. This same object was the subject of one of the first images released from Herschel. The view on the front is a composite that shows the power of combining these two spectacular images.



Herschel

Spitzer

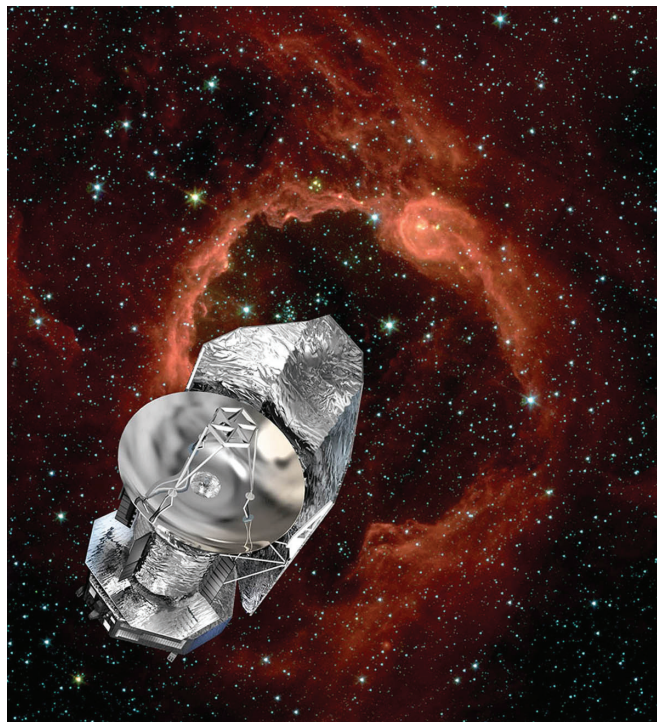
Spitzer and Herschel both clearly see the ring of material, which is being heated and compressed by the intense ultraviolet light from hot, massive stars in the center. Seen in the near-infrared by Spitzer, these stars do not stand out against the background of others seen in the image. The coldest dust is only seen by Herschel in far-infrared wavelengths, and lies around the edge of the ring, seen as red and yellow in this image. The warmer dust in the ring also glows at the shorter wavelengths that Spitzer measures. The shorter wavelengths allow Spitzer to observe the dusty ring in exquisite detail, but do not show the colder dust.

The biggest surprise in the image is the bright white blob on the left edge of the ring. The Herschel measurements show that this is a star in the process of forming, and has already grown to 10 times the mass of the Sun. There is still plenty of room for growth, though, and this protostar could end up being one of the largest in our Milky Way Galaxy, possibly hundreds of times the mass of our Sun.

Current theories struggle to explain how such massive stars form, but observations by Herschel are allowing astronomers to understand the processes. Understanding the role of all the material involved requires observations from many telescopes at a wide range of wavelengths.

Rings like this can be seen all over the sky, but finding them is a huge task and the Spitzer team is asking for help. The Milky

Way Project is a citizen science project through which the public can browse hundreds of thousands of Spitzer images, looking for objects similar to RCW 120 located throughout our galaxy. Visit <http://www.milkywayproject.org> to learn more.



Herschel is a European Space Agency cornerstone mission, with science instruments provided by consortia of European institutes and with important participation by NASA. NASA's Herschel Project Office is based at NASA's Jet Propulsion Laboratory, Pasadena, California. JPL contributed mission-enabling technology for two of Herschel's three science instruments. The NASA Herschel Science Center, part of the Infrared Processing and Analysis Center at the California Institute of Technology in Pasadena, supports the United States astronomical community. Caltech manages JPL for NASA.

Find out more about the Herschel Space Observatory and its images at the following websites:

<http://www.herschel.caltech.edu/>

<http://sci.esa.int/herschel>

<http://herchel.esac.esa.int/>

<http://www.esa.int/SPECIALS/Herschel>

National Aeronautics and Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

LG-2013-01-015-JPL — JPL 400-1522 01/13