February 2008

Reflection Nebula NGC 7129

Looking like a Valentine’s Day rose in this image from the Spitzer Space Telescope’s infrared array camera, reflection nebula NGC 7129 is home to some 130 young stars. Reflection nebulae are clouds of gas and dust that shine by reflecting the light from nearby stars. The brightest reflection nebulae are places where new stars are being formed.

Images of NGC 7129 taken by visible telescopes (right) show only a smattering of hazy stars against a luminescent cloud. Spitzer, however, by sensing the infrared radiation or heat of the cluster, reveals much more detail. In this four-color composite, emission at an infrared wavelength of 8.0 microns is shown in blue; 4.5 microns in green, 3.6 microns in orange, and 2.2 microns in red. Dust grains heated by the intense light from the embedded young stars appear rosy red. Three very young stars near the center of the image are sending supersonic jets of gas into the cloud, heating up molecules of carbon monoxide. Emissions from these CO molecules appear in green as the “stem” of the rose.

Credit: NASA/JPL-Caltech/T. Megeath (Harvard-Smithsonian CFA).