INFRARED VIEW OF THE RCW 38 STAR-FORMING REGION

This spectacular three-colour composite image of RCW38 was obtained through three near-infrared filters with the ISAAC multi-mode instrument at Nasmyth Focus B of the first VLT 8.2-m telescope (ANTU).
It shows a region in the Milky Way at a distance of about 5,000 light-years, where stars, which have recently formed in clouds of gas and dust, are still heavily obscured and cannot be observed in the visible part of the spectrum. However, they are very well seen at infrared wavelengths where the obscuration is substantially lower. The diffuse radiation is a mixture of starlight scattered by the dust and gas in the area, and atomic and molecular hydrogen line emission.

ISAAC was built by ESO and is a cryogenic infrared spectro-imager (spectral region 0.9-5 µm). It has two arms, one for the Short Wavelength (SW) spectral domain (0.9-2.5 µm), and one for the Long Wavelength (LW) spectral domain(3-5 µm), both equipped with state-of-the-art array detectors. ISAAC has a variety of imaging and spectroscopy modes in both of the arms. It is controlled via a panoply of software templates for defining and executing sequences of operations for acquisition, observation and calibration.

Technical information: The photo is a combination of three exposures through Z-(centred at 0.9 µm), H- (1.65 µm) and Ks-filters (2.16 µm) and with exposure times of 160, 320 and 210 seconds, respectively. The seeing was 0.4 arcsec. The field measures 2.5 x 2.5 arcmin. North is at the top and East to the left.

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