

# The Orion Nebula



## William Herschel Telescope + 2 CCD Mosaic Prime Focus Camera



Emission nebulae are clouds of high temperature gas. The atoms in the cloud are energized by ultraviolet light from a nearby star and emit radiation as they fall back into lower energy states (in much the same way as a neon light). These nebulae are usually red because the predominant emission line of hydrogen happens to be red (other colours are produced by other atoms, but hydrogen is by far the most abundant). Emission nebulae are usually the sites of recent and ongoing star formation. Shown here it is the star-formation region M42, also known as the *Orion nebula*. Located at a distance of about 1,600 light years, the Orion nebula is the brightest diffuse nebula in the sky, visible to the naked eye. It is the main part of a much larger cloud of gas and dust which extends over 10 degrees well over half the constellation Orion. This image is a 10 second “true-colour” composition using filters B, V, and R on the WHT 2 CCD mosaic prime focus camera.

Credit: Simon Tulloch (ING) and Nik Szymanek (SPA).

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