



A close-up photograph of two orange slices, one partially visible at the top right and another larger one centered below it. The background is filled with dense, dark, and slightly blurred text from a book or document.

Most obvious are the cosmic clouds and glowing nebulae. Our Galaxy contains hundreds of them, many known by fanciful names. The Rosette Nebula, for example, resembles the North America nebula in Messier's 1784 catalog. It can easily be confused with comets, especially since such other celestial objects as the Great Orion Nebula are visible to the naked eye.

The great Orion nebula, object number 42 in Messier's catalog, M42.

A blue van with a white roof and black stripes driving away from the viewer. The background features a green turtle illustration on the left and a star cluster illustration on the right.

The size of an H

The size of an H_{II} region depends on the density of the gas and the ionization rate from the stars inside; the largest known H_{II} regions are about 200 pc across. Most H_{II} regions are roughly spherical and defined against the surrounding interstellar medium by their outer edge. The outer boundary is limited ionized gas.

pected, the lines of the Lyman series have those characteristics. The Lyman α lines of the D₂ star are seen as a very strong, broad, luminous, vivid pink H α at 656 nm. The H β line has a distinctively colored greenish tinge. In addition to the especially optical some H II regions contain a couple of other [O III] lines at 495.9 and 500.7 nm, identified as a new element and These lines arise in what are called 'transitions': transitions in the high densities which occur freely in the observation of forbidden transitions in the formation of ionization regions.

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