

AGE SPREAD OF THE ORION NEBULAR STARS

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The Orion Nebula is a recent star formation place on a sequence of star formation in the Orion Association Ia to Id and further to the Orion Molecular cloud as shown by Kutner, Tucker, Chin, and Thaddeus (1977). From the photoelectric observations, Penston (1973, 1975) obtained the age of the Nebula younger than 3×10^6 years.

The photographic observations of the Orion Nebular stars with an image splitter have been carried out in 1970 and 1971. The magnitude of faint stars is calibrated by the 2nd images of the bright stars in the same field, and the mean error of magnitude in each plate is estimated to be about 0.3 magnitude. Then, the diagram of R magnitude to R - I color is obtained for the stars in the region within 15' from the Trapezium stars. The numbers of observed stars for two different color plates are about 1000.

From the modified H - R diagram, the age of stars spread over 10^4 years to 3×10^7 years which is same as that the Orion Association Ia. Here, we conclude that stars in the Orion Nebular region were continuously formed during the whole life of the Orion Molecular cloud.