

SPECTROSCOPIC OBSERVATIONS OF THE CLUSTER IC 2391 .

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With the grating spectrograph of the Bosque Alegre telescope, which gives a dispersion of 42 Å/mm, the brightest stars of the galactic cluster IC 2391 were taken, for the purpose of radial velocity measurements and for a provisional spectral classification in the MK system.

Two stars, namely N.2 and 6 (HR 3442 and HD 74275, respectively) from Hogg's list (1960) display radial velocity variations. The mean of the radial velocity of 11 stars gives $V = +15,0 \text{ km/sec} \pm 2,1$. Star number 32 (HD 74536) according to Hogg's color and proper motion perhaps does not pertain to the cluster. When leaving out this star, the $\bar{V} = 13,6 \pm 1,8 \text{ km/sec}$.

The most interesting results of the spectral classification are the following: star N.4 (HR 3466) is a peculiar star of the Si-A4200 type; star N.11 (HD 74169) is a metallic-line star being classified A2 according to hydrogen and A7 according to the metallic lines; star number 32, for which unfortunately we have only one plate also displays some peculiarities. The brightest stars of this cluster are of spectral type B6 and α Vel, as judged by its spectrum, would lie a little above the main sequence.

With our spectral types and luminosity classes and the intrinsic colors we obtain a color excess $E_{B-V} = -0^m.01 \pm 0^m.01$ and adopt thus $E_{B-V} = 0^m.00$. The spectral types and the related absolute magnitudes (Johnson and Iriarte, 1958) give the modulus $m-M = 6^m.28 \pm 0^m.07$ (excluding star number 32), which gives a distance of 182 pc.

A discussion of the proper motions of the zone shows that the proper motion of the cluster obtained by Hogg is mainly the reflected solar motion.

The star HD 73340 was classified by Jaschek and Jaschek (1959) as pertaining to the Si- λ 4200 group and is located at a distance of 2° from the center of the cluster. Its spectrum is practically identical with the one of the cluster star N.4. From the radial velocity ($V_r = +16,5$ km/sec) and the apparent visual magnitude ($m_v = 5,96$) it seems certain that HD 73340 pertains also to the cluster, lying about 6 pc. away from the cluster center.

The cluster is not associated with HII regions (Hogg, 1960), but in the neighborhood ($30'$ and 3°) there are some (Abt, Morgan and Strömgren, 1957; Gum, 1956) which are excited by γ^2 Vel and ζ Pup, located at a distance of about 250 pc. As the cluster is located at 182 pc from us and the projected distance between the cluster and the cloud is 5; it results that IC 2391 is within the Strömgren sphere produced by the two stars, which would explain the absence of HI and HII regions.

The age of the cluster found by Hogg (approximately 2 or 4×10^7 years) is not changed by the present results. Therefore this object is one of the youngest clusters which contains peculiar stars.

The work will be extended to fainter stars.

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