

## THE MILKY WAY IN CARINA-CENTAURUS

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The importance of the study of this region is related with the suggestion made by Bok that there we are looking along the spiral arm which is coming from Cygnus

About 130 stars of early types, from O5 to B5, 12 Wolf-Rayet stars and 50 stars in a radius of  $10^4$  around Eta Carinae were observed photometrically in the UBV system.

From a diagram between the true distance modulus and the absolute magnitude of all this stars, we conclude that the great majority of these O-B stars are farther than  $m_p - M > 11.0$ , or 1600 parsecs.

The nearer stars are less luminous than  $M_V = -3$ . They are of spectral type later than B2, and with luminosity class III, IV, V, or V. Their age would be around  $10^7$  years.

From the (V, B-V) diagram of the stars around Eta Carinae (Tr. 16 cluster) we found that they are at a distance of approximately 2500 pc, and the interstellar absorption is  $A_V = 1.32$ . Their brightest stars have absolute magnitude  $M_V = -6.5$  and the age of the cluster is  $2 \times 10^6$  years. Some stars are situated to the right of the main sequence in the color-magnitude diagram, and the possibility that they belong to the cluster implies that they may have additional absorption of about  $0^{m.2}$  or  $0^{m.3}$ , which is possible only if the cluster is immersed within the nebulae.

The study of the distance distribution of all the open clusters in this region indicates that there are some very near us in  $l^{\text{II}} = 290^\circ$ , but their relation with the O-B stars is not very clear.

Two bright nebulae are in Carina; IC 2944 is at a distance of 2200 pc with an color excess of  $E_{B-V} = 0^{m.33}$ , which means an interstellar absorption of  $A = 0.53$  m/kpc, and the Eta Carinae nebulae (Tr. 16) at a distance of 2500 pc,  $E_{B-V} = 0^{m.44}$  and  $A = 0^{m.45}$  m/kpc. Taking a mean of these two values of the absorption we get  $A = 0.5$  m/kpc which means a quite clear region, at least until around 2000 pc.

Applying the variable extinction method for computing the ratio  $R = \frac{A_V}{E_{B-V}}$  we get  $R = 3$  for stars farther than  $V - M_V > 11.0$ . The relation from the color excesses gives  $\frac{U-B}{E_{B-V}} = 0.72$  which is perfectly normal.

Taking into account the UBVRI colors for a few observed stars in this zone, they are all similar to those obtained in Perseus which is a normal region.

Also all the Wolf-Rayet stars may belong to the group of the O-B stars if we compute the color excesses derived from the intrinsic colors which result from their position in the (B-V, U-B) diagram.

From considerations of the H I distribution obtained by 21 cm, and the measurements made by radioastronomers in 20 cm. (thermal radiation) they are also connected with the large concentration of O-B stars.

A complete discussion of this subject will be published else where.

## GENERALIZACION DE LAS ECUACIONES DE NAVIER-STOKES PARA UN FLUIDO AUTOGRAVITANTE

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Las ecuaciones fenomenológicas de la Termodinámica Irreversible, en el caso autogravitante, conducen a un término de relajación de las velocidades en las ecuaciones del movimiento.

## EVOLUCION DE GALAXIAS Y FORMACION DE ESTRELLAS

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## ORBITA DE $\epsilon$ CORONAE AUSTRINAE

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El sistema de tipo W Ursae Majoris,  $\epsilon$  Coronae Austrinae, muestra sólo el espectro de una de las componentes que corresponde al tipo espectral FOV. Como las amplitudes de los dos mínimos de luz son prácticamente iguales, resulta que las dos componentes deben tener brillos superficiales comparables y por consi-