

50. PROGRESS REPORT OF THE CURRENT RESEARCH ON THE GALACTIC STRUCTURE IN VELA

J. DENOYELLE

Koninklijke Sterrenwacht van België, Ukkel, Belgium

In order to find evidence for supporting or rejecting the idea of a major spiral feature in the direction of $l^{\text{II}}=270^\circ$, as proposed by Velghe (1969), it is necessary to extend the limits of the survey both in longitude and in distance. The extension towards smaller longitudes was placed arbitrarily at $l^{\text{II}}=257^\circ$, while in the direction of Carina, the investigation was confined to $l^{\text{II}}=285^\circ$. In doing so, sufficient overlap was made with the studies by Velghe and by Graham and Lyngå (1965), in order to get a homogeneous and complete material in a large, but important section of the southern Milky Way. Following the same technique as outlined in the preceding paper, about 360 young type stars were selected from objective-prism plates, taken with the ADH-telescope of the Boyden Observatory. Later on (in 1966) a first series of *UBV* photoelectric measurements was carried out at the Boyden Observatory, however with insufficient accuracy. Before finishing the reductions, a second series was made with the 1m-photometric telescope of the ESO (La Silla, Chile) at the end of 1968. These (ESO)-values, in the Johnson *UBV*-system, will be available before long. In the definite form, they will be combined with the Boyden-measurements. The surface distribution of the stars in the whole section is shown in Figure 1. Many of the stars between $l^{\text{II}}=273^\circ$ and 282° are of rather late B-type, but they were included for the purpose of determining the absorption in this field. The space distribution will enable

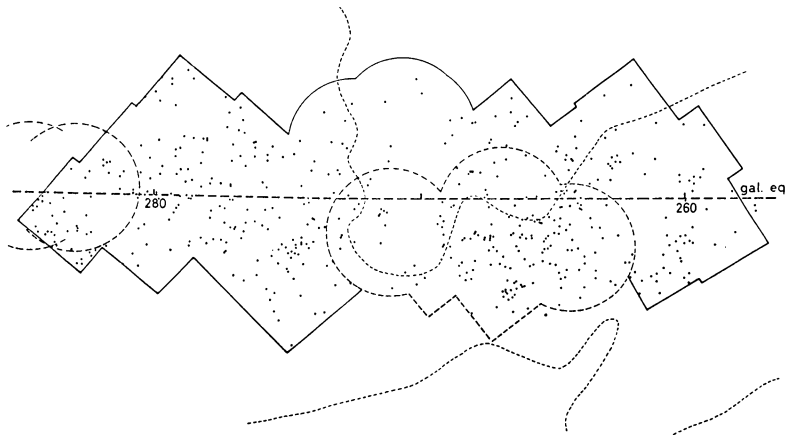


Fig. 1. Surface distribution of O- and B-type stars in and near Vela. Limits of the survey: (—) Denoyelle; (----) Velghe and (for $l^{\text{II}} > 280^\circ$) D. Hoffleit; (-----) Boundary of the Milky Way (Skalnáté Pléso).

us to decide whether the edge of the Carina spiral feature is seen in this direction (Bok *et al.*, 1969) and if there is any indication for a possible linkage from Carina to Puppis. To extend the distance limit, a search for faint blue stars, applying the idea of Bok (1966), is planned and some photoelectric sequences will be measured early in 1970 as standards for photographic photometry. As another approach to the galactic structure in this field a complete set of red objective-prism plates has been obtained since 1966, to pick out the objects with $H\alpha$ in emission. As for the reality of the association I Vel, some preliminary material on Radial Velocities will be collected also in 1970, using the Fehrenbach astrograph of the ESO at La Silla (Chile).

References

- Bok, B. J.: 1966, IAU Symposium No. 24, p. 228.
Bok, B. J., Hine, A. A., and Miller, E. W.: 1969, IAU Symposium No. 38, p. 246.
Graham, J. A. and Lyngå, G.: 1965, *Mem. Mt. Stromlo Obs.* No. 18.
Velghe, A. G.: 1969, IAU Symposium No. 38, p. 278.