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ISOLINES OF SURFACE DENSITY AND Z-COORDINATES OF CEPHEIDS[†]

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Lines of equal surface densities and Z -coordinates for Cepheids within 3 kpc from the Sun are computed using Berdnikov's (1987) distances and a standard software GRAFOR (Bayakovssky *et al.*, 1985). Large complexes of Cepheids spaced at about 1 kpc are outlined along the Car-Sgr arm, the older one being located above the mean galactic plane and younger ones, placed by its sides – slightly below the plane. Thus main results of Alfaro *et al.* (1992) concerning the relation of the galactic disk relief to density of young clusters are confirmed. Corrugations of galactic plane are not confined to the spiral arms whereas large, dense star complexes are confined, especially within the Car-Sgr arm, plausibly because it is a part of the grand-design spiral pattern of the Galaxy.

[†]Proceedings of the Conference held in Kosalma

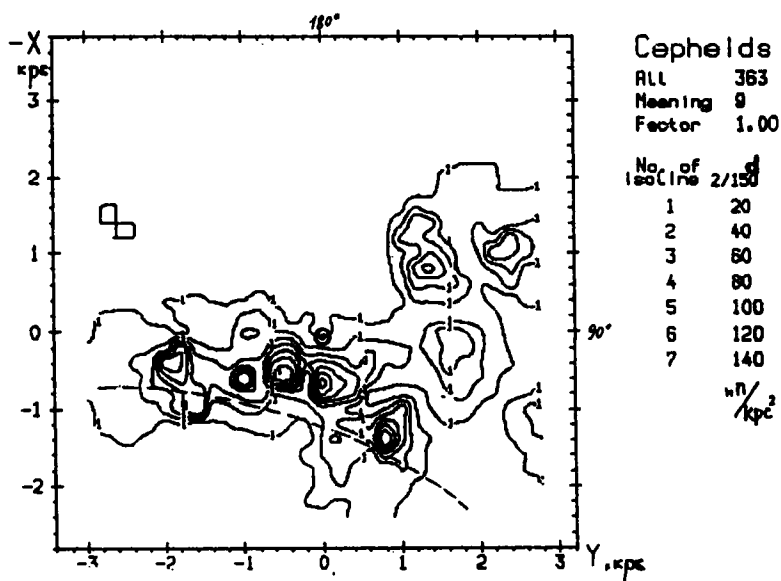


Figure 1 Lines of equal surface densities of cepheids, beginning from 20 kpc^{-2} with the interval 20 kpc^{-2} . The middle line of the Car-Sgr arm is shown ($R_c = 7.3 \text{ kpc}$), with the pitch angle of 21° .

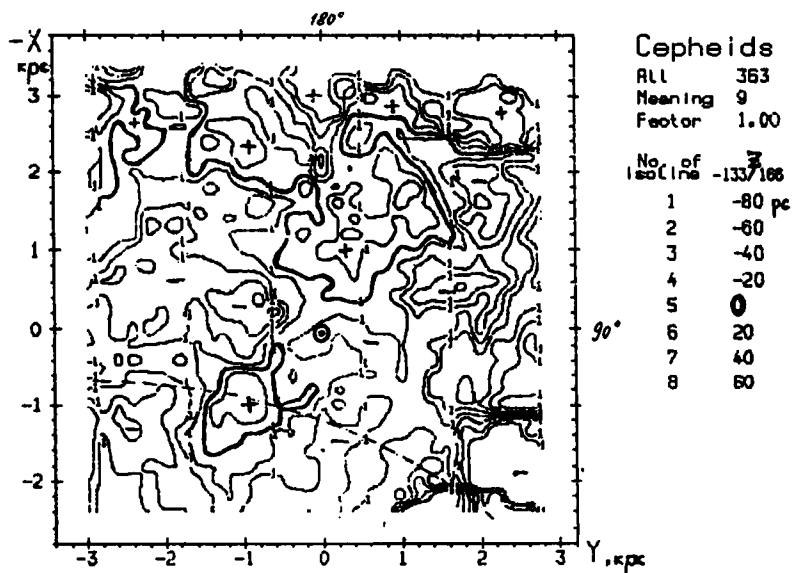


Figure 2 Isolines of the Z -coordinates of cepheids with interval of 20 pc . Bold line corresponds to $Z = 0$. The middle line of the Car-Sgr arm is shown according to young clusters ($R_c = 7.3 \text{ kpc}$).

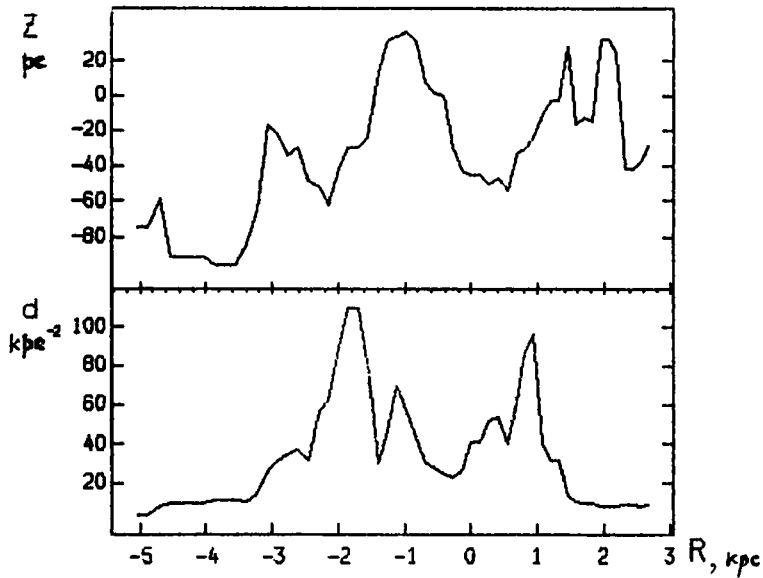


Figure 3 Runs of average Z -coordinates (upper panel) and surface densities of cepheids (lower panel) along the middle line of the Car-Sgr arm according to young clusters ($R_c = 7.3$ kpc).

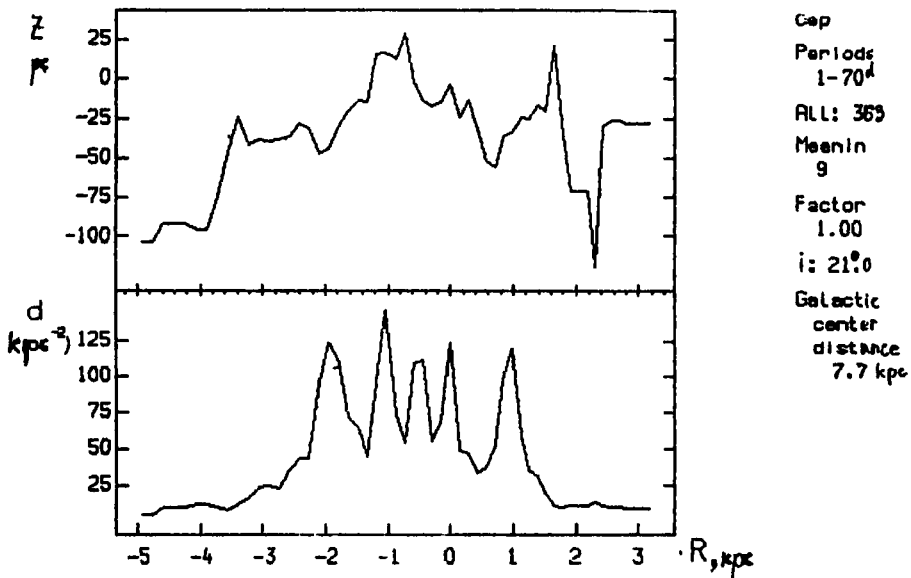


Figure 4 Runs of average Z -coordinates (upper panel) and surface densities of Cepheids (lower panel) along the middle line of the Car-Sgr arm according to Cepheids ($R_c = 7.7$ kpc).