

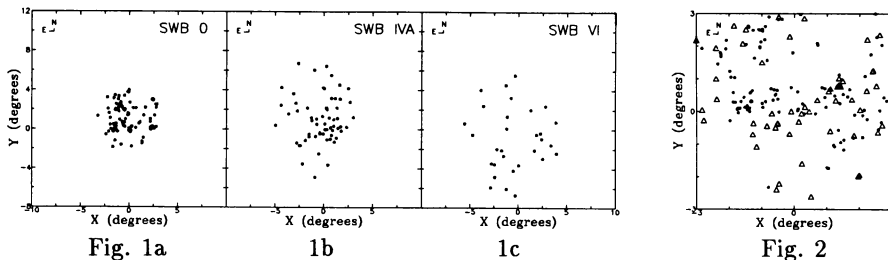
INTEGRATED UBV PHOTOMETRY OF 624 LMC CLUSTERS

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A compilation of integrated UBV photometry for 147 LMC clusters was published by van den Bergh (1981). We have increased by more than a factor 4 the sample of star clusters with integrated UBV photometry in the LMC, totalling now 624. The observations were carried out with the CTIO 0.6m and the 2.14m CASLEO telescopes. The sample is essentially complete up to $V \approx 13$ but also contains fainter clusters up to $V \approx 14.5$. The (U-B) vs (B-V) diagram has provided interesting results such as the detection of the helium flash gap in the color evolution (Bica et al. 1991). We have derived equivalent SWB types and study their spatial distribution. The spatial extent (Fig. 1) varies from diameter $\approx 6^\circ$ for the disk of HII region clusters (SWB 0) to $\approx 11^\circ$ at SWB VI, reaching 15° or more for SWB VII, which is probably a halo distribution. The coordinates in degrees are centered at NGC1928, a cluster close to the geometric center of the Bar. Groups SWB V or younger present inhomogeneities in their distributions. Group IVA (Fig. 1b) presents a strong concentration of clusters at the western extremity of the Bar (WEB). Group V is already at the 1-2 Gyr range and presents two clumps, one also coincident with the WEB and another with a structure known as the de Vaucouleurs' arm (Lynga and Westerlund, 1963). Fig. 2 shows a remarkable phenomenon in the Bar: SWB I clusters (dots) are shifted by an angle of 19° clockwise relative to those which trace the Bar, i. e. SWB II ones (triangles). This shift is centered at the WEB. These evidences point to an important mass concentration at the western extremity of the Bar. The age difference between SWB I and II and the spatial scale of the angular shift would indicate shock induced star formation for the SWB I group. The spatial distribution of age groups reveals phenomena which will certainly help to better understand the star formation history of the LMC and its dynamical evolution.



REFERENCES

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