



1) the apparent magnitudes of Lindsay

2) " " " " de Vaucouleurs.  
Here we only publish the second case for the reason that in it the points are distributed even more strictly in a stripe

parallel to the ancient right line  $\frac{W}{5} + \lg D_m = 2.20$ . The

globular clusters of the Small Magellanic Cloud are themselves more or less approximate to a right line

$\frac{W}{5} + \lg D_m = 2.00$ ; they are smaller and in magnitude

weaker too. This result can have two explanations.

1) From these globular clusters, lying directly in the rich stellar background of the Small Magellanic Cloud, are visible only the nuclei of maximal stellar concentration, which generally are much minor than the interior diameters of the globular clusters of our Galactic System.

2) The distance or its modulus respectively of the Small Magellanic Cloud will be even greater than those adopted till now, we would say by one stellar magnitude.

On the other hand, it would be necessary to adopt as a definite fact, that the globular clusters of the Small Magellanic Cloud are far more weaker and of minor dimensions than the same objects of our Milky Way.

#### LITERATURE

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### The natural double sequence of globular clusters

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*Abstract:* The existence of two radii for every globular cluster is established; thus the correspondent theory of I. R. King (1962, etc.), is proved by using old and new observational data from various authors.

*Resumen:* Se establece la existencia de dos radios para cualquier cúmulo globular, comprobando así mediante observaciones antiguas y nuevas de varios autores la correspondiente teoría de I. R. King (1962, etc.).

In an earlier report (Wilkens 1971), the author had published for the first time "The diagram of absolute integral magnitudes ( $W$ ) and of linear diameters ( $D_m$ )" designed jointly for associations of stars of spectral types O and B and for globular and open clusters.

In this diagram the names of the *associations* are preceded by AS; *globular clusters* are indicated by only two ciphers (suppressing HW); for identification see: H. Wilkens (1960) or (1970); *open clusters* are indicated generally by their numbers (suppressing NGC); in some cases by IC or by M(essier) or by C(ollin)de r or any other name with the corresponding numbers. Generally the symbols of objects with positive galactic latitude are orientated vertically, and those of objects with negative galactic latitude are orientated horizontally.

We must remember that in this diagram the globular clusters—contrary to associations of O and B type stars and contrary too to open clusters—had accumulated themselves fairly well along an unique right line according

to the formula  $\frac{W}{5} + \lg D_m = 2.20$ . The absolute integral

magnitude  $M$  is given by  $W = M + 10$  and the linear diameter by  $D_m$ , measured in parsecs. In this way, practically all the globular clusters existing in our galaxy appear to be accumulated very "naturally" on this right line, and therefore the author calls this sequence "The natural Sequence of Globular Clusters". This right line of globular clusters runs with an angle of  $45^\circ$  from the center of the diagram till the left corner below the diagram, that is, from the weakest and smallest clusters till the brightest and greatest. At this final point of the line, the culmination is marked by  $\omega$  Centauri.

Well; while elaborating this right line, some few exceptional cases already appeared, that is to say, globular clusters which evidently are located very distant from the general right line. These had been the following three globular clusters: NGC 5466 and 3201 and 5824 (indicated in the diagram by the respective numbers of +5 and +30 and +17). In order to "normalize" the position of these three clusters, that is to say, in order to get them too located on the general right line of all the others, their symbols had received a demonstrative arrow in that diagram. But, later on it appeared that there could exist more exceptional cases, as for example the clusters marked with the numbers +3 and +13a and +1. This is to say that the cases which before had been termed "exceptional" gradually turned to be so abundantly till to form a new regular group.

The definitive impulse in order to form this new regular group of still greater linear diameters gave the recent elaboration of new observational data referred to the apparent diameters of globular clusters according to the following authors:

M3 from 22.1	Augment of apparent diameter $\omega$ in Shapley and Sayer 1935 till 42' Kholópov 1955 and Zhúkov 1969
IC4499 from 3.3	estimated by H. Wilkens in the photos of Fourcade and Laborde 1969 till 6.2 published by Sawyer Hogg 1947 and 1963