

# SUMMARY OF A CONTRIBUTION ON "THE MAGELLANIC CLOUDS"

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*Communication by M. W. FEAST*

Combined spectroscopic and photo-electric observations of bright stars in the two Magellanic Clouds show that :

1) There is no marked difference between the stars observed in the two Clouds when compared with each other or with normal galactic supergiants, as judged by :

- (a) direct spectroscopic comparison,
- (b) Hertzsprung-Russell diagram,
- (c) U, B, V plot.

2) Stars observed in both Clouds suffer a small amount of absorption, the precise amount depending on the intrinsic colours adopted. How much of the absorption takes place within the Clouds remains to be determined.

3) A reddening path has been determined by comparison of Cloud stars (little reddened) and galactic supergiants (heavily reddened). The observations are consistent with a single

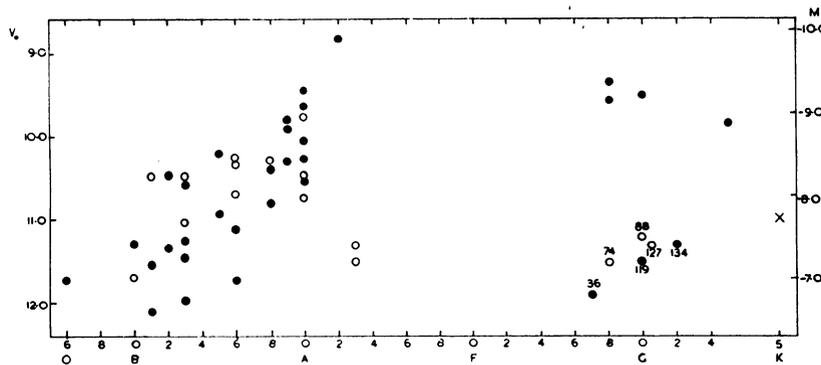


Fig. 1 (*Courtesy "the Observatory"*)

HR diagram for Magellanic Cloud stars with known spectral type, magnitudes and colours (Pec objects and W stars omitted).

$V_0$  = Apparent Visual Magnitude corrected for absorption.  $M$  = Absolute Visual Magnitude. Open circles SMC. Filled circles LMC. Cepheid types and magnitudes are for maximum light and the periods in days are indicated. The cross refers to Henize SMC S/30 for which no accurate magnitude is available.

reddening path and have not yet suggested any difference in the absorbing properties of dust in the Clouds and in the Galaxy. A conclusion on this latter point must await observations of heavily reddened stars in the Clouds.

## *Discussion*

**Buscombe :** Is it not surprising that no long period variables of late K or M types are found in your Magellanic Cloud surveys? The Henry Draper Catalogue shows a large excess number of these types compared with other fields in similar galactic latitudes, with magnitudes at max. 11 - 13 (?) photographic. Some undoubtedly would show emission lines.

\* See Observatory, 78, 156, 1958 for full details.