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COMMUNICATIONS FROM THE OBSERVATORY AT LEIDEN.

Note on a star which probably is a white dwarf, by *P. Th. Oosterhoff*.

Among stars of the double cluster ζ and χ Persei which were measured by the writer for the determination of effective wavelengths, one faint star was found which shows a remarkable white colour. Special attention may be drawn to this star since the proper motion as given by VAN MAANEN is: ".166^s). The star is identical with VAN MAANEN's No. 1166.

The following data have been taken from *Rech. Astr. de l'Obs. d'Utrecht*, Vol. V and from the paper quoted above.

$$\left. \begin{array}{l} \alpha = 2^{\text{h}}10^{\text{m}}31^{\text{s}} \\ \delta = +56^{\circ}39'0 \end{array} \right\} (1900) \quad 13^{\text{m}}.1 \quad \begin{array}{l} \mu_{\alpha} = +".165 \\ \mu_{\delta} = -".014 \end{array}$$

The star has been measured for effective wavelength on four plates only, but the different measurements are in good agreement with each other. Since the reduction of the effective wavelengths to a definite scale has not yet been finished, it is not possible to give the final result in \AA units or as equivalent colour

¹⁾ *Mount Wilson Contr.* 205.

index, but provisionally it will be sufficient to mention that the colour index of this star will be about $^{\text{m}}.15$ smaller than those of the stars B.D. + 56°470 and B.D. + 56°471, the spectra of which are B2 according to Adams and B1 and B1 ρ respectively according to the Draper Catalogue. The mean error of the final colour index will be about \pm $^{\text{m}}.07$.

The proper motion, magnitude and colour index have also been determined by PARVULESCO, who found: ²⁾

$$\mu = ".173 \quad 13^{\text{m}}.44 \quad \text{colour index: } -^{\text{m}}.10,$$

which is in good agreement with the data given above. Assuming the data given by VAN MAANEN and an absolute magnitude + 1 ($\pi = ".1$) as for common A stars, the linear velocity would be 2070 km/sec. It seems therefore very propable that we have here to do with a white dwarf. A determination of the spectrum and of the parallax, which may be expected to be of the order of ".04, will be of much interest.

²⁾ *Bull. Astron.* deuxième série, III, 393. 1923.

On the variability of the period of RR Leonis, by *P. Th. Oosterhoff*.

This variable of the RR Lyrae type shows an uncommonly quick rise from minimum to maximum, the greatest rate of change in brightness is about one magnitude in 25 minutes. Therefore the period may be determined more accurately from observations on the ascending branch than from observations near maximum. The star has been observed photographically during the last three years with the 34-cm. refractor of this observatory, with the special purpose to get a large number of observations on the steep ascending branch of the lightcurve. In *A.N.* No. 5625

AXEL V. NIELSEN published an investigation on this star and found the period to be variable in all probability. As will be shown in the course of this paper his result is well confirmed by my observations.

The observations were made on Eastman 40 plates of size 16 cm. \times 16 cm. and generally no grating in front of the objective was used. The time of one exposure was 5 or 4 minutes. The plates have been measured in the Schilt microphotometer by Mr. KOOREMAN. In order to avoid large colour differences between the variable and the comparison stars, one