A PHOTOMETRIC INVESTIGATION OF THE MAGNETIC STAR 53 CAMELOPARDALIS

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ABSTRACT. Geneva photometry of the important and relatively well known Ap star 53 Cam (HR 3109, HD 65339) is presented. These 27 data, which cover rather evenly the rotational phase interval, are compared with the photometric data in ten bandpasses published by Musielok et al. (1980). They allow to show that at least four "null-wavelength regions" occur between 3400 and 7800 Å.

A simple model of surface brightness distribution is proposed, which is axisymmetric about the magnetic axis. The magnetic geometry of 53 Cam, fortunately, is rather well known (Borra and Landstreet, 1977) and makes such a model possible. This model is applied to the fluxes measured through 15 different bandpasses and to the integrated flux. The local distribution of the peculiarity parameter Δ(V1-G) and of the equivalent width of the TiII and CaII K lines are modelled in the same way. It seems that the integrated flux increases from the negative magnetic pole to the positive pole, but the variation is very small ($0^m.01$) and should be confirmed by infrared and ultraviolet measurements.

The mean pseudocontinuum of the star has been drawn from ~3500 to ~6600 Å using 14 passbands. It is shown that it can be roughly fitted with a solar composition Kurucz model having T_{eff}=8200 K and log g=4.0.

All figures, tables and more detailed information will be published in the 3rd number of Acta Astronomica, 1985.

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