

# ABSTRACTS OF BULLETIN OF THE ASTRONOMICAL INSTITUTES OF THE NETHERLANDS SUPPLEMENT SERIES

Supplement Series Volume 2, No. 3

## INVESTIGATIONS ON POPULATION II CEPHEIDS. I. NEW PHOTO-ELECTRIC OBSERVATIONS

K. K. KWEE and L. D. BRAUN

Communication from the Observatory at Leiden

In this first publication of a series of four papers on Population II Cepheids, photo-electric *UBV* observations are presented of 32 pulsating variables, of which 25 are Population II Cepheids, 4 are classical Cepheids and 3 appeared to be RR Lyrae stars. For the variable V 1077 Sgr of which the original coordinates and identification chart were incorrect, a correct position and finding chart are also given in this paper. The observations were made by the first author at the McDonald Observatory on 16 nights in July 1963. No nearby

comparison stars were observed, however, 16 standard stars were measured with the programme. The reductions for extinction were largely performed by the second author. It was found that the extinction coefficients were slightly variable during the night. The individual observations and the light-curves for each variable are given at the end of the paper. A discussion of the light- and colour-curves will be given in a subsequent publication.

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## INVESTIGATIONS ON POPULATION II CEPHEIDS. II. EPOCHS AND PERIODS

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Communication from the Observatory at Leiden

In this second publication of a series of four papers, dealing with Population II Cepheids, variations in their periods have been discussed. The underlying photo-electric observations have been published in the first paper of this series. In addition an extensive search through literature has been made to look for earlier observations of the variables in question. A rising-branch epoch has been introduced in order to have a

sharply defined characteristic epoch. Wherever possible they have been derived for each series of observations known. Three variables, which have been misclassified in the past, are in fact RR Lyrae stars. Of the eleven Cepheids which have been observed frequently enough, four seem to have constant periods, two have changes in the period of the order of 0.02 per cent and five have changes of the order of 0.4 per cent.