Photoelectric observations of Southern Cepheids in 2003-2004

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PHOTOELECTRIC OBSERVATIONS OF SOUTHERN CEPHEIDS IN 2003–2004

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In December 2003 and January 2004, 3704 photoelectric \(V_I\) brightness measurements were made for 117 Cepheids using the SAAO 0.76 m reflector. \(V\) light curves and \(V-I\) colour curves are presented.

KEYWORDS: stars, Cepheids, photometric techniques

1 INTRODUCTION

This work continues our programme of photoelectric monitoring of southern hemisphere Cepheids, the main goals of which were described in our previous paper (Berdnikov and Turner, 2004).

2 OBSERVATIONAL DATA

The photoelectric observations were performed between 9 December 2003 and 19 January 2004 (Julian dates 2 452 983–2 453 024) with the 0.76 m reflector of the South African Astronomical Observatory, equipped with a pulse-counting photoelectric photometer. It is a cooled unit that employs a Hamamatsu photomultiplier in conjunction with \(V_I\) filters of the Kron–Cousins photometric system (Cousins, 1976). A description of the observing techniques can be found in our previous paper (Berdnikov and Turner, 2004). Observational uncertainties are close to a magnitude of 0.01 in all bands.

We have obtained a total of 3704 measurements for 117 Cepheids, which are plotted in Figures 1–12. The phases of the observations for CR Ori, CS Ori, CU Ori, CV Ori, DF Ori,
Figure 1. Light and colour curves for T Ant, RY CMa, SS CMa, VZ CMa, XZ CMa, U Car, V Car, UX Car and VY Car.

GQ Ori, V336 Ori, V432 Ori, VW Pup, WW Pup, WX Pup, WY Pup, WZ Pup, BC Pup, BN Pup, CK Pup, CM Pup, LQ Pup and LR Pup were calculated with the elements from GCVS_IV (Kholopov et al., 1985); for other stars, the elements from the paper by Berdnikov and Turner (2004) were used. The observations themselves are available on request.
Figure 2. Light and colour curves for WZ Car, XX Car, XZ Car, YZ Car, CR Car, CT Car, CY Car, ER Car, FF Car and FI Car.
Figure 3. Light and colour curves for FN Car, FZ Car, GH Car, GI Car, HQ Car, HW Car, II Car, IO Car, IT Car, V397 Car, l Car and V Cen.
Figure 4. Light and colour curves for TX Cen, VW Cen, XX Cen, AY Cen, AZ Cen, BB Cen, KN Cen, QY Cen, V339 Cen and V378 Cen.
Figure 5. Light and colour curves for V381 Cen, V419 Cen, V659 Cen, V737 Cen, V898 Cen, AV Cir, AX Cir, BP Cir, R Cru, S Cru and T Cru.
Figure 6. Light and colour curves for SV Cru, TY Cru, VX Cru, AG Cru, BG Cru, β Dor, ζ Gem, T Mon, SV Mon and TY Mon.
Figure 7. Light and colour curves for UY Mon, BV Mon, V526 Mon, R Mus, S Mus, CR Ori, CS Ori, CU Ori, CV Ori and DF Ori.
Figure 8. Light and colour curves for GQ Ori, V336 Ori, V432 Ori, X Pup, RS Pup, VW Pup, VZ Pup and WW Pup.
Figure 9. Light and colour curves for WX Pup, WY Pup, WZ Pup, AD Pup, AP Pup, AQ Pup, AT Pup, BC Pup and BD Pup.
Figure 10. Light and colour curves for BM Pup, BN Pup, CE Pup, CK Pup, CM Pup, EK Pup, HL Pup, LL Pup and LQ Pup.
Figure 11. Light and colour curves for LR Pup, LS Pup, MY Pup, NT Pup, V335 Pup, R TrA, S TrA, T Vel, V Vel and RY Vel.
Figure 12. Light and colour curves for RZ Vel, SV Vel, SW Vel, SX Vel, XX Vel, AE Vel, AH Vel, BG Vel and EZ Vel.
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References