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**MAXIMA OF THE SX PHOENICIS STAR BL CAMELOPARDALIS**

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We report here a total of 56 times of maximum light for the multiperiodic SX Phe star BL Cam (Zhou et al. 1999). The maxima were collected at the Xinglong Station of Beijing Astronomical Observatory in 1999. The observations were carried out with a red-sensitive Thomson TH7882  $576 \times 384$  CCD photometer (Wei et al. 1990; Zhou et al. 2001) attached to the 85-cm Cassegrain telescope. A Johnson  $V$  filter was used. The CCD has an imaging size of  $13.25 \times 8.83$  mm<sup>2</sup> corresponding to a sky field of  $12'.3 \times 8'.4$  ( $1''.2$ /pixel, a pixel size is  $23 \mu\text{m}^2$ ). Four stars in the field of BL Cam were selected as references. They are

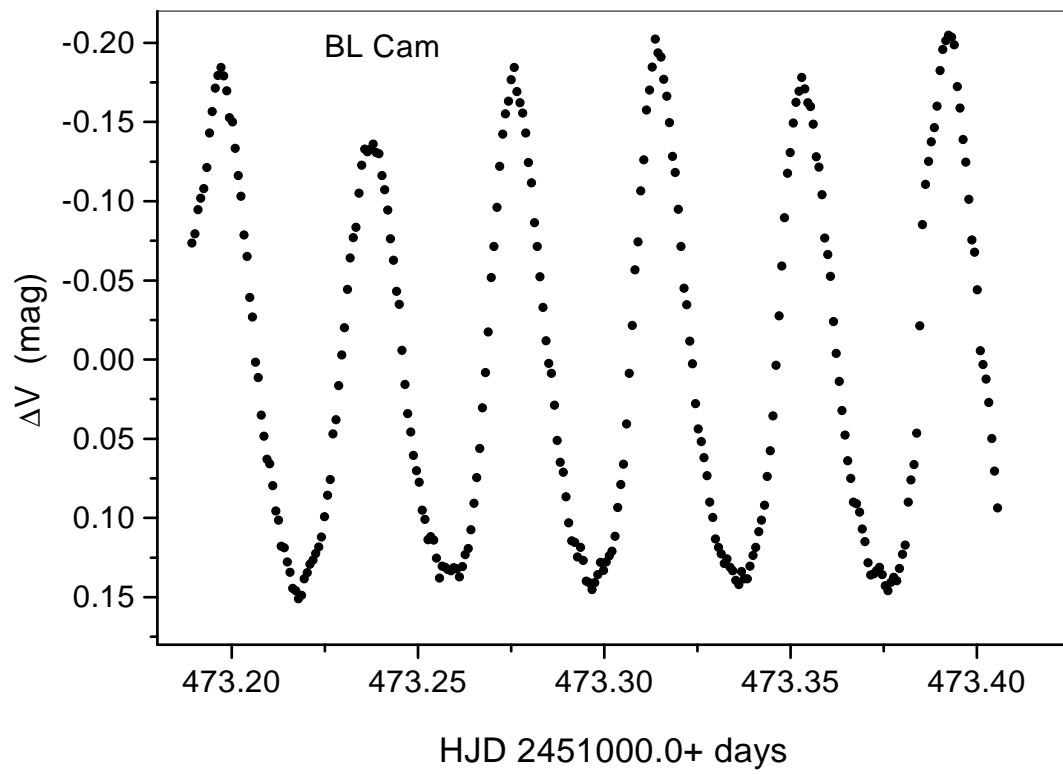
- C1 = GSC 4067\_0554 ( $RA = 03^{\text{h}}47^{\text{m}}13^{\text{s}}.74$ ,  $DEC = 63^{\circ}21'17''.3$ , 2000.0, 13.8  $V$ ),
- C2 = GSC 4067\_0077 ( $RA = 03^{\text{h}}47^{\text{m}}13^{\text{s}}.67$ ,  $DEC = 63^{\circ}20'50''.0$ , 2000.0, 12.1  $V$ ),
- C3 = GSC 4067\_0071 ( $RA = 03^{\text{h}}47^{\text{m}}04^{\text{s}}.77$ ,  $DEC = 63^{\circ}24'10''.4$ , 2000.0, 11.7  $V$ ),
- C4 = GSC 4067\_0748 ( $RA = 03^{\text{h}}46^{\text{m}}46^{\text{s}}.00$ ,  $DEC = 63^{\circ}21'27''.7$ , 2000.0, 12.0  $V$ ).

Exposure times ranged from 30 to 70 s, depending on the nightly condition of seeing. The atmospheric extinction was not taken into account in view of the close spacing of the observed stars. The differential colour effect between the variable and the reference stars are largely eliminated by taking the mean combination of the latter. Hence the differential magnitudes of BL Cam are calculated relative to the four comparison stars as  $V - (C1 + C2 + C3 + C4)/4$ . The magnitude differences between the comparison stars generally show a typical standard deviation of  $0^{\text{m}}010$ . For the nights of good seeing a better value of about  $0^{\text{m}}006$  was obtained. These four comparison stars were detected to be non-variables at the accuracy of observation.

Figure 1 gives the differential  $V$  light curves versus Heliocentric Julian Day from 21 October 1999. We determined the times of maximum light by second-order polynomial fitting the points around each peak of the light curves. The error of the determination is about 0.00035 days. The times of maxima are listed in Table 1. The maxima are helpful for the study of period change. One may use the new maxima together with those available in the literature to improve the period behaviour of BL Cam. We hope to publish a thorough investigation on the amplitude and period variability of this star when collecting additional time-series data after a span of a couple of years.

Table 1: New times of maximum light for BL Cam. Cycle numbers ( $E$ ) and  $O - C$  values were calculated with the ephemeris  $\text{HJD}_{\text{max}} = 2443125.8048 + 0.03909760 \times E$  (McNamara & Feltz 1978)

HJD 2451000.0 +	$E$	$O - C$	HJD 2451000.0 +	$E$	$O - C$
416.30826	212046	0.01377	470.38297	213429	0.01650
416.34776	212047	0.01417	471.20348	213450	0.01596
436.32804	212558	0.01558	471.24214	213451	0.01552
441.25489	212684	0.01613	472.18199	213475	0.01703
441.29337	212685	0.01551	472.22119	213476	0.01713
441.33240	212686	0.01545	472.25928	213477	0.01612
466.23884	213323	0.01672	472.29851	213478	0.01626
466.27836	213324	0.01714	472.33891	213479	0.01756
466.31781	213325	0.01749	473.19747	213501	0.01597
466.35692	213326	0.01750	473.23787	213502	0.01727
467.21695	213348	0.01739	473.27597	213503	0.01628
467.25568	213349	0.01702	473.31483	213504	0.01604
467.29362	213350	0.01586	473.35369	213505	0.01580
467.33312	213351	0.01626	473.39256	213506	0.01557
467.37262	213352	0.01666	474.21313	213527	0.01509
468.23237	213374	0.01627	474.25381	213528	0.01668
468.27059	213375	0.01539	474.33187	213530	0.01654
468.30996	213376	0.01566	479.14052	213653	0.01619
468.34972	213377	0.01632	479.18032	213654	0.01689
469.21109	213399	0.01755	479.21971	213655	0.01718
469.24992	213400	0.01728	479.25726	213656	0.01563
469.28797	213401	0.01623	479.29727	213657	0.01655
469.32718	213402	0.01634	479.33645	213658	0.01663
469.36754	213403	0.01761	479.37564	213659	0.01672
470.22616	213425	0.01608	480.15712	213679	0.01625
470.26449	213426	0.01531	480.19609	213680	0.01612
470.30322	213427	0.01494	480.23456	213681	0.01549
470.34392	213428	0.01655	483.16685	213756	0.01546



**Figure 1.** The CCD differential  $V$  light curves (dots) of BL Cam from 21 October 1999

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