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BV PHOTOMETRY OF ECLIPSING BINARY BLUE STRAGGLERS IN THE GLOBULAR CLUSTER NGC 5466

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Name of the object:
Blue stragglers NH 19, NH 30, NH 31 in the globular cluster NGC 5466.

Equatorial coordinates:	**Equinox:**
R.A.$= 14^{\rm h}03\overset{\rm m}{.}2$ **DEC.**$= +28°46'$	1950

Observatory and telescope:
The images were obtained with the No. 1 0.9-meter telescope at Kitt Peak National Observatory.

Detector:	The 800 × 800 TI#2 CCD with a pixel scale of 0.43 arcsec (1991) and the 2048 × 2048 T2KA CCD with a pixel scale of 0.69 arcsec (1992, 1993, 1995, 1997).

Filter(s):	The Harris B and V filters were used, with an exposure times of 300 s for the V frames and 500 s for the B frames.

Comparison star(s):	Four stars in the field were selected as local magnitude standards for relative photometry, (185, 272, 276, and 281 Buonanno et al. 1984).

Transformed to a standard system:	UVB
Standard stars (field) used:	Twenty-nine standard stars selected from Landolt (1983) with a range in (B–V) from −0.186 to +2.527 mag were observed.

Availability of the data:
Electronically as 4619-t1.txt

Type of variability:	Eclipsing binary

Remarks:

We present a new photometric study of the three eclipsing blue stragglers in NGC 5466 identified by Nemec and Harris (1987). The images used in this study were obtained during May 1991, May 1992, April 1993, June 1995, and June 1997. The raw data frames were processed and reduced following standard procedures using ALLSTAR in DAOPHOTX in IRAF. Light curves based on the Mateo et al. (1990) periods were used to obtain O–C diagrams and new periods were determined from these. ALLSTAR magnitude errors were variable from frame to frame with the 1991 data having in general smaller errors. The average magnitude errors were about 0.027 for NH 19, 0.038 for NH 30, and 0.020 for NH 31. The resulting ephemerides are: NH 19 0.342146 ± 0.000001 day, epoch 2448382.886 ± 0.003 days; NH 30 0.297536 4± 0.000001 day, epoch 2448380.764 ± 0.006 day; and NH 31 0.511327 ± 0.000001 day, epoch 2448383.787 ± 0.005 day.
The finding chart is published in Nemec and Harris (1987).

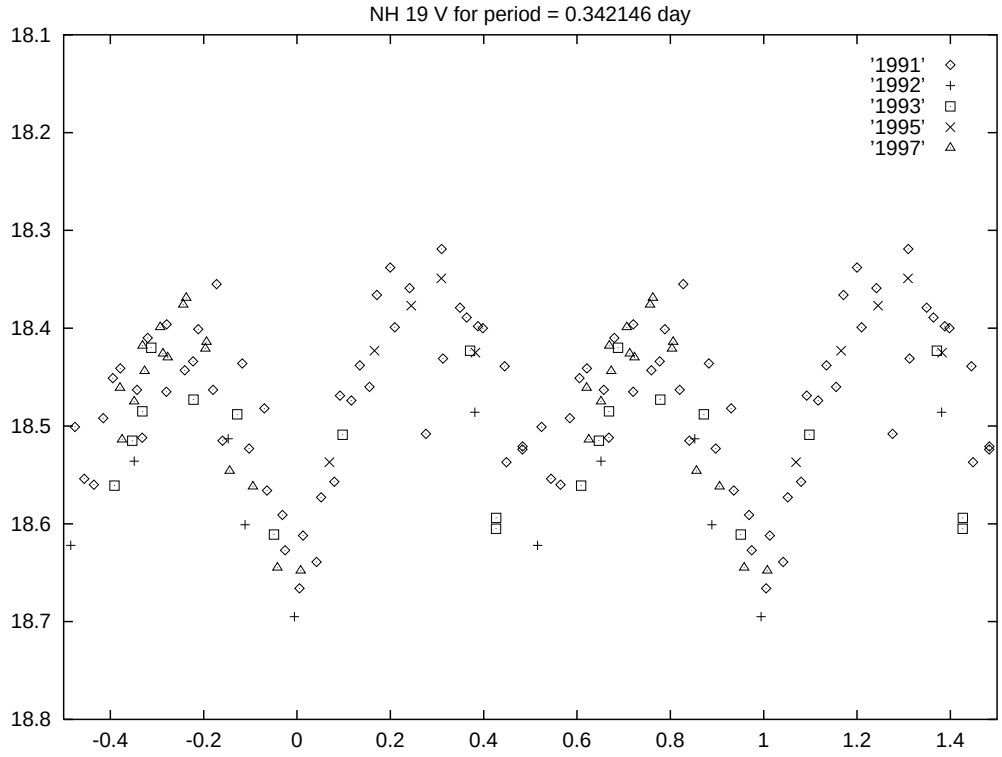

Figure 1.

References:

Buonanno, R., Buscema, G., Corsi, C., Iannicola, G., and Fusi Pecci, F. 1984, *A&AS*, **56**, 79

Landolt, A. 1983, *AJ*, **88**, 439

Mateo, M., Harris, H., Nemec, J., and Olszewski, E. 1990, *AJ*, **100**, 469

Nemec, J. and Harris, H. 1087, *ApJ*, **316**, 172

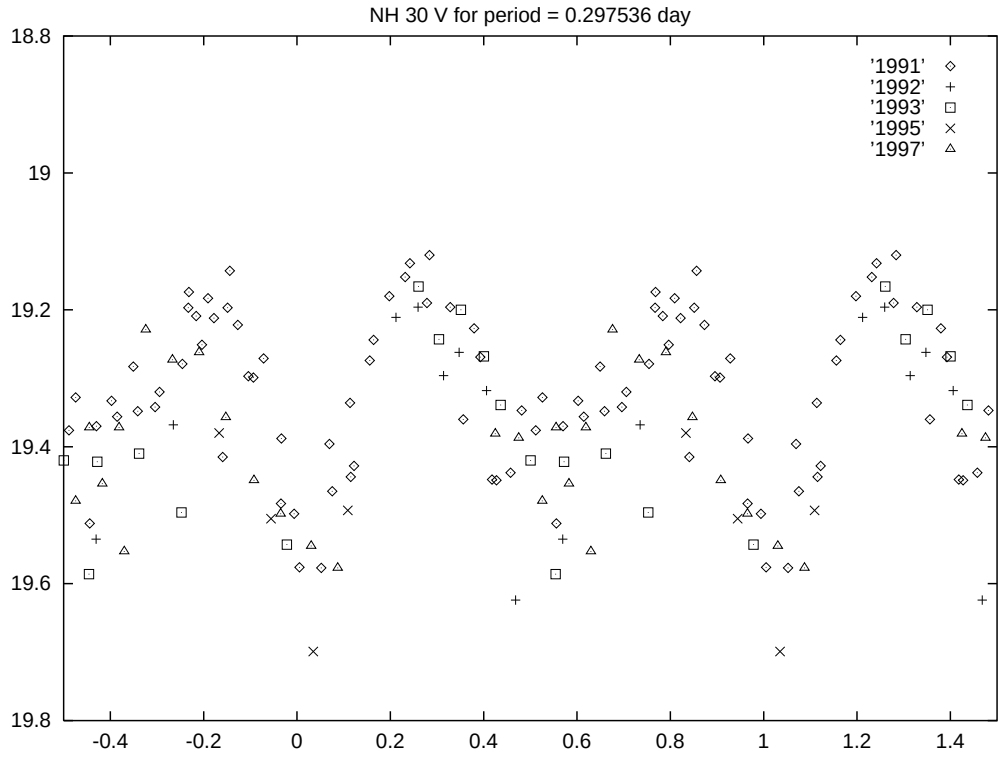

Figure 2.

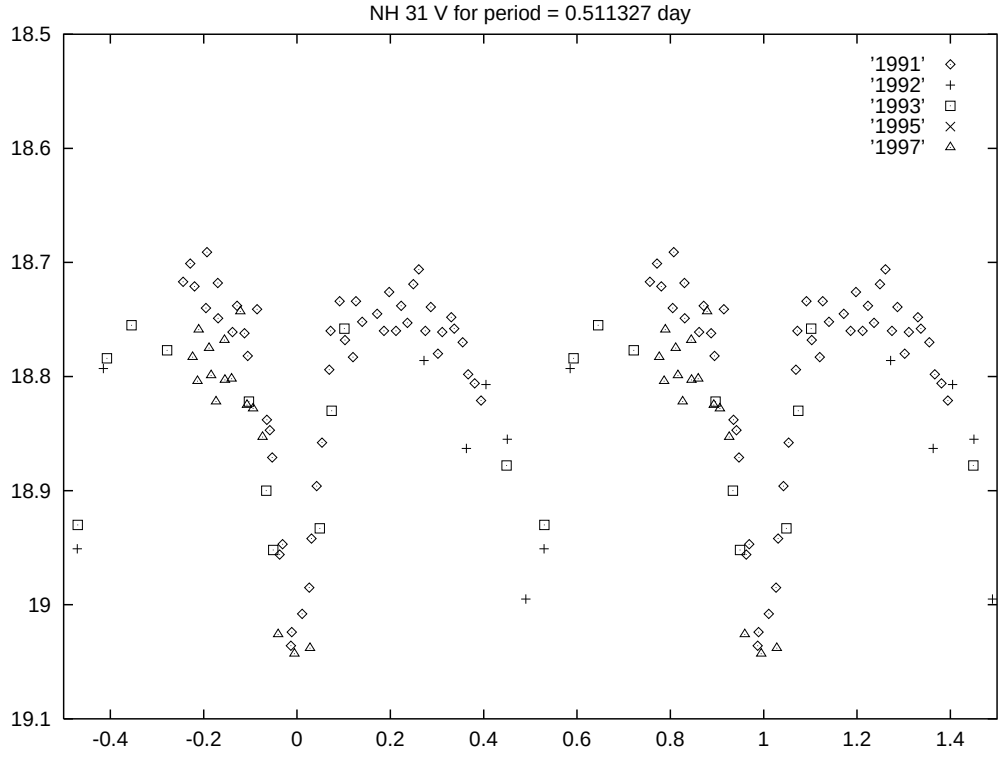

Figure 3.