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NSV 05256, A LOW AMPLITUDE RRab STAR IN CAMELOPARDALIS

NSV 05256 (= BD +82°0338 = SAO 001900 = AGK +81°0344 = PPM 2002 = GSC 4556.0251 = BV 0367 = CSV 006845), was announced as a variable star by Strohmeier and Knigge (1962). They indicated that it was an eclipsing binary with a photographic variation range from $10^{\text{m}}1$ to $10^{\text{m}}6$, without giving any further information about type and period. According to NSV (Kholopov, 1982), the spectral type for NSV 05256 is F6 although it appears as F2 in the PPM catalog.

Following a surveillance program of poorly studied variable stars, NSV 05256 was observed for 12 nights, from 16 December 1995 to 24 February 1996, from L'Estelot Observatory in L'Ametlla de Mar (Spain), in the B and V bands using a 0.3-m telescope and a Starlight Xpress CCD camera. As comparison star SAO 001899 (= $BD + 82^{\circ}0337$ = PPM 2001 = AGK + 81^{\circ}0343 = GSC 4556.0246) was used, and GSC 4556.0256 served as check star. According to PPM the magnitude of the comparison star, SAO 001899, is 10.30 and its spectral type is F0.

In order to determine the magnitude of SAO 001899, the star was observed in the B and V bands using an Optec SSP-5A photoelectric photometer attached to the focus of the 0.4-m telescope at Mollet Observatory (Spain).



Figure 1

Observations showed that NSV 05256 is not an eclipsing binary but an RR Lyrae star with an asymmetric light curve ($\epsilon = 0.24$). The photometric work confirmed the magnitude and spectral type of SAO 01899. This and CCD observations indicate that the magnitude of NSV 05256 at maximum light is 9.53 in V and 9.80 in B, which places this star among the brightest objects of its class. The amplitude is $0^{m}_{...350} \pm 0^{m}_{...0050}$ magnitudes in V and $0^{m}_{...474} \pm 0^{m}_{...004}$ of B.

The observed B-V color index for this RR Lyr ranges from $+0^{m}26$ to $+0^{m}38$, which means an approximate spectral type variation from A9 to F3. V, B, and B-V phase curves are depicted in Figure 1. After checking a set of over two hundred bright RR Lyr (Lub 1976, Fitch et al. 1966, Zakrzewski 1993, Eggen 1994), it was found that NSV 05256, FW Lup and ST Pic are, in this order, the bright RRab Lyrae stars with the smallest amplitude in V band.

After performing a least-squares fit to the observed maxima, we determined the following ephemeris:

> Max. = HJD 2450080.588 + $0^{d}6214 \times E$ ± 0.002 ± 0.0001

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