

COMMISSIONS 27 AND 42 OF THE IAU
INFORMATION BULLETIN ON VARIABLE STARS

Number 4994

Konkoly Observatory
Budapest

6 December 2000

HU ISSN 0374 – 0676

V383 VELORUM, A NEW DWARF NOVA

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Luyten (1938) first reported variability of the star NSV 4834 (HV 8280), which he estimated at 12.5 and 15.5 m_{pg} on two plates of the Bruce Proper Motion Survey. My investigation of this star on 316 Harvard photographic plates reveals that it is a previously unrecognized dwarf nova, ranging 12.5-17 m_{pg} . The improved position is RA $10^{\text{h}}19^{\text{m}}40^{\text{s}}.6$, Dec $-49^{\circ}34'15''$ (1950). The new coordinates were determined by interpolating the position of the variable among surrounding stars from the Guide Star Catalog. A finding chart appears in Figure 1. To permit all future observations to be identified with the same name, the official designation V383 Velorum has been assigned by N. N. Samus, editor in chief of the General Catalogue of Variable Stars (personal communication).

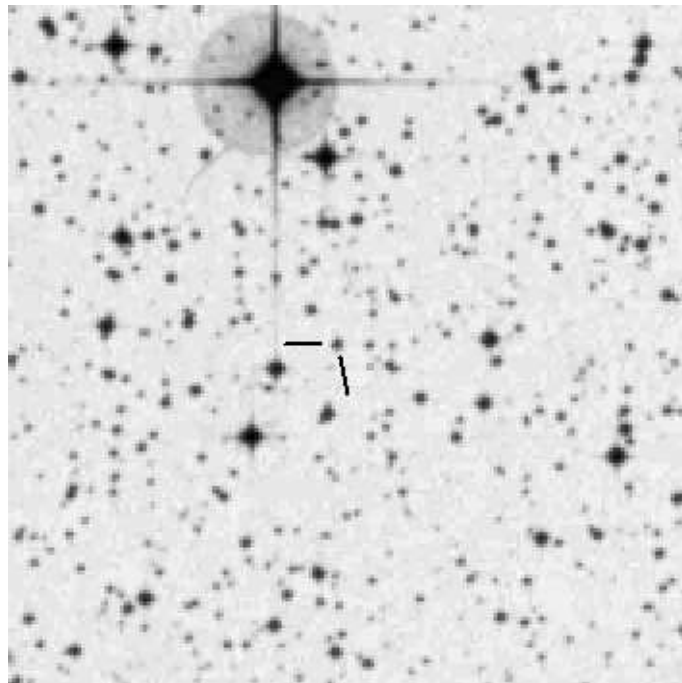


Figure 1. Finding chart for V383 Vel from the DSS (STScI). North up, field 5 arcmin wide. Bright star at top is SAO 221986 = HD 89954, 9.0 *V*

Observations during 30 maxima are listed in Table 1. The variable was estimated on 14 plates of the 60-cm Bruce astrograph (1899, 1926–35) and 107 plates of the 25-cm MF

Table 1: Maxima of V383 Vel on Harvard plates

JD 2400000 +	m_{pg}	JD 2400000 +	m_{pg}
14393.7*	12.6	29039.3*	13.5
24668.6*	13.6	29749.3	13.8
24672.6	16.5	29751.3*	12.9
26046.4*	12.8	29756.3	15.5
26055.4	14.8	30056.3*	12.5
26414.4	(14.6	30061.4	12.8
26417.4*	12.6	30063.3	13.3
26469.3*	13.4	30491.3*	12.9
26470.3	13.4	31591.3*	13.0
26471.3	14.0	31963.3*	13.1
26472.3	14.6	33039.3*	12.5
26738.6*	13.9	33418.3*	13.8:
26796.3	13.2	43695.5*	13.0
26797.3*	13.1	45703.0	13.2:
26803.4	16.2	45711.0*	13.0
26889.4*	12.8	45872.9*	14.0:
27044.6*	13.8	46110.0*	13.0
27050.5	15.8	46170.9*	12.9
27125.4	13.1	46224.9*	12.8
27193.2	13.8	46837.2*	12.8
27194.4*	12.9	46918.0*	13.2
27590.3*	13.5	47327.9*	13.1
29000.4*	13.5		

camera (1930–35). The best of these plates reach a faint limit of about 17.0 B . (These observations are listed electronically as 4994-t2.txt, available through the IBVS Web site.) In addition, estimates of the variable during outbursts were collected from the RB patrol plates (1930–52, faint limit 15.5 B) and the DSB patrol plates (1978–88, faint limit 14.5 B). Magnitudes of local comparison stars were estimated by comparison with nearby photoelectric B sequences from the Guide Star Photometric Catalogue (Lasker, Sturch, et al. 1988). The brightest observation near each maximum is labeled with an asterisk (*), though in each case the true maximum may have been brighter and earlier or later than the given JD. When available, fainter observations within a few days of labeled maxima are included in the table to indicate the rate of rise and decline.

In several instances, the maxima occur at intervals of 52–60 days, which is probably the characteristic cycle for this DN. In one instance, JD 2429000 and 2429039, the interval is shorter, but probably neither observation at 13.5 represents a full maximum.

V383 Vel is one of 1,764 new variables found by Luyten during the Bruce Survey. Most remain unstudied. For a brief review of these discoveries, see Williams (2000).

I would like to thank Martha Hazen, curator of astronomical photographs, for access to the Harvard College Observatory plate collection and Timothy Hager for assistance in preparing this report for publication.

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