

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

Number 4037

Konkoly Observatory
Budapest
31 May 1994

HU ISSN 0324 - 0676

IMPROVED ASTROMETRY FOR VARIABLE STARS

In the course of preparing finder charts for variable stars, I have used the HST Guide Star Catalogue extensively as a source of reliable positions. Many of the variables I have charted since 1990 are found in the GSC, and a list of forty stars is presented, as Table 1. The positions are all taken from the GSC. In the case of multiple GSC positions, the mean value is given. All stars have been identified by reference to photographs or older charts.

Several very interesting variables are not in the GSC, and improved positions have been measured from photographs, relative to GSC stars. Data for five stars are in Table 2.

Clarifying remarks are given below for four stars.

TZ Cen.

The star GSC 8989-00095 agrees well with TZ Cen as regards position and magnitude. There appears to be no identification problem, contrary to the remark given in the GCVS.

NSV 14319. Near S5150 = RZ Gruis.

The position given in the NSV is spurious, as none was given in the paper by Siedel (1957), and the finder chart in that paper appears to have been misinterpreted (Wenzel, 1990). The star is also wrongly plotted on VSS, RASNZ chart 954 (Bateson and Morel, 1990). The variable is really 2' south of the marked position. Following the advice given by Wenzel, I find that NSV 14319 = GSC 8010-00313 ($m=12.23$). Position in Table 1. [Note that Siedel's finder chart has North at top, in error. 'N' should be at bottom.]

NSV 4223 Pyx.

Se star. Observed by P. Camilleri on patrol films. In Catalogue of Galactic S Stars (Stephenson 1984), which places it 1.5 arc min south-following CoD-32°5649 (9.7). Both stars are clearly seen on Union Obs. chart, with NSV 4223 near maximum (10 mag). NSV 4223 is not in DM catalogues, nor in GSC. Contrary to NSV, and the Catalogue of S Stars, NSV 4223 \neq CoD-32°5649.

New Variable in Vulpecula. See IBVS 3604.

This variable is superimposed on the planetary nebula M27, a popular subject for astrophotography. Many photos in popular books and magazines were searched for images of the variable. One such photo is in Sky & Tel., Aug. 1993, p.66, where the variable is at about 14.3V. A mean position was determined relative to GSC stars (two determinations using different sets of stars). The improved position appears in Table 2.

Table 1: Positions of Variable Stars from Guide Star Catalogue.

Name	GSC No.	R.A. (J2000)			Dec.			Remarks	
		h	m	s	o	'	"		
WW Cet	5263-00415	0	11	24.81	-	11	28	42.9	
R For	6433-00295	2	29	15.28	-	26	5	54.5	
R Ret	8872-00420	4	33	32.82	-	63	1	46.2	
TV Col	7059-00509	5	29	25.47	-	32	49	4.2	
ST Pup	7100-00288	6	48	56.36	-	37	16	33.9	
Z CMa	5389-01211	7	3	43.07	-	11	33	5.7	
QS Mon	5396-00840	7	25	13.06	-	7	52	42.7	
V694 Mon	5396-01135	7	25	51.24	-	7	44	7.6	
DQ Pup	6542-00396	7	29	11.16	-	26	10	32.1	
PP Pup	8133-02109	7	35	52.28	-	46	32	17.0	
YZ CMi	0183-02190	7	44	40.50	+	3	33	15.3	
SS Pup	6548-02718	7	46	38.29	-	26	20	35.4	
ET Pup	6561-01413	7	54	37.20	-	28	4	58.6	
R Cha	9394-01962	8	21	46.91	-	76	21	18.5	
W Cha	9394-02775	8	28	22.17	-	76	33	43.1	
V336 Car	8576-00085	8	32	25.23	-	57	2	14.2	
TX Pyx	7141-00233	8	42	30.62	-	32	20	32.2	
AM Car	8943-03285	10	14	29.40	-	60	43	27.9	
FU Car	8626-02521	10	41	0.34	-	59	23	12.9	
V426 Car	8626-00464	10	47	56.89	-	59	8	54.7	
V432 Car	8959-00431	11	8	40.30	-	60	42	51.7	
FQ Car	8959-00065	11	10	13.00	-	60	50	50.7	
U Cen	8650-01846	12	33	30.63	-	54	39	34.5	
EX Hya	6709-00694	12	52	24.42	-	29	14	56.7	
V496 Cen	8989-01422	13	3	10.76	-	60	52	38.9	
TZ Cen	8989-00095	13	4	7.24	-	60	45	57.5	
V398 Cen	8990-03516	13	19	55.17	-	60	42	26.8	
NSV 6200	8990-03462	13	21	37.61	-	61	34	14.9	
NSV 6202	8990-02176	13	21	42.89	-	60	49	46.4	
RZ Vir	0300-00285	13	21	50.40	+	1	50	49.9	
U Mus	8998-02133	13	25	3.34	-	64	39	47.8	
XY Mus	8999-02850	13	27	33.09	-	65	4	3.0	
NSV 6282	8666-00587	13	31	5.25	-	55	0	0.6	
BV Cen	8666-00998	13	31	19.52	-	54	58	33.7	
BC Cen	8677-01439	14	2	29.30	-	58	33	25.0	
NSV 6525	9013-00792	14	3	22.95	-	63	57	28.7	
NSV 6536	9013-00637	14	5	33.59	-	64	20	1.0	
NSV 6545	9009-01513	14	6	0.09	-	62	4	22.6	
Z Aps	9252-01914	14	6	54.98	-	71	22	16.2	
V854 Cen	7810-00220	14	34	49.35	-	39	33	19.8	
NSV 7190	9034-00653	15	42	25.79	-	65	39	8.5	
HK TrA	9034-03378	15	42	30.92	-	65	38	47.6	
GL TrA	9031-03143	15	43	27.51	-	65	27	29.7	
AF Nor	8705-03082	15	52	38.05	-	56	38	31.4	
SS Nor	8723-00573	16	13	21.89	-	59	46	56.6	Near QR Nor.
TX Oph	0406-00580	17	4	0.10	+	4	59	1.1	
AE Ara	8347-01978	17	41	4.93	-	47	3	27.0	
V2203 Oph	0424-00304	17	49	43.32	+	4	28	24.4	
AR Pav	9080-00788	18	20	27.92	-	66	4	41.8	
GU Sgr	6844-03878	18	24	15.58	-	24	15	26.1	
V4018 Sgr	6869-00806	18	25	26.95	-	28	35	57.5	
NSV 11753	3132-00900	19	6	54.38	+	44	2	55.5	

Table 1 (continued):

Name	GSC No.	R.A. (J2000)			Dec.		Remarks	
		h	m	s	o	'		"
KQ	Aql	0463-01244	19	12	22.87	+	1 33 8.6	
HR	Del	1642-00998	20	42	20.38	+	19 9 39.9	
LQ	Del	1642-00526	20	42	49.47	+	19 11 7.7	
EV	Aqr	0526-01562	21	6	17.85	+	0 52 43.5	
U	PsA	6960-00988	22	2	29.49	-	27 53 7.0	
S	PsA	6960-01450	22	3	45.82	-	28 3 4.0	
RU	Peg	1145-00536	22	14	2.58	+	12 42 11.4	
NSV 14319		8010-00313	22	48	16.47	-	42 54 22.7	

Table 2: Positions of Variable Stars not in Guide Star Catalogue.

Name	GSC No.	R.A. (J2000)			Dec.		Remarks
		h	m	s	o	'	
NSV 4223	8	43	41.0	-	32 31 40	CGSS 543.
TT	Cen	13	19	35.5	-	60 46 45	
UU	Cen	13	22	6.4	-	61 18 37.4	
QR	Nor	16	13	20.0	-	59 47 30	Near SS Nor.
...	Vul	19	59	29.8	+	22 45 13	Near M27.

I wish to thank the following people for providing useful material: Paul Camilleri for his observations of NSV 4223; Robert H. McNaught, Siding Spring Observatory, for identifying SS and QR Nor on UK Schmidt plates; Albert F. Jones of Nelson, New Zealand, for providing a copy of Wenzel's letter.

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