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NEW NORTHERN CEPHEIDS

WILS, PATRICK[1]; GREAVES, JOHN[2]

[1] Vereniging Voor Sterrenkunde, Belgium; e-mail: patrick.wils@cronos.be

[2] Borrowdale Walk, Northampton, UK

A search for Cepheid variables was conducted in the publicly available data of the Northern Sky Variability Survey (NSVS, Wozniak et al., 2004, also see `http://skydot.lanl.gov/nsvs`). All NSVS fields with Galactic latitude $< |10|$ degrees were searched for candidates with both a sufficient number of observations to enable analysis and also with a significantly higher standard deviation than normal for their magnitude.

This resulted in the discovery of 40 previously unknown Cepheids, six of which are misclassified GCVS variables, and one was confirmed to be a Cepheid. One star was found during a test of the procedure in a field further away from the Galactic plane.

Table 1 lists the details of the new Cepheid variables. They are identified by either their GSC 1.2 number, when available, or their USNO-B1.0 number. The coordinates are taken from either UCAC2 (U; Zacharias et al., 2004), Tycho2 (T; Høg et al., 2000) or USNO-B1.0 (B; Monet et al., 2003), in that order of priority. The third column gives the Galactic latitude, and fourth the magnitude range from NSVS (red sensitive CCD cropped by a filter at 450 and 1000 nm), then the 2MASS $J - K_s$ colour, the GCVS variability type, the epoch of maximum (JD − 2450000), and the period in days. The electronic version of the IBVS also provides a link to a phase plot and to the source of the data (in the case where there are two or more NSVS synonym objects pointing to the same star, only one of these objects is referred to).

Table 2 gives GCVS and NSV cross identifications for the relevant stars. The MisV identifications refer to stars discovered to be showing variability by the MISAO project (Yoshida, 2003). Simbad denotes V1397 Cyg to be identical to IRAS 21475+5211, these are however separate objects. GSC 2418-1443 is the brighter component of the binary h5540 with a separation of $13\farcs6$.

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Table 1. New Cepheid variables

GSC/USNO	RA (J2000) Dec		b	Mag	$J-K_s$	Type	Epoch	Period
G 4038-1585	01 21 21.06	+64 06 03.0 B	+1.4	11.5−12.0	0.94	DCEP	1447.3	4.71
G 4030-1640	01 21 42.37	+61 46 07.6 B	−0.9	12.6−13.1	0.99	DCEP	1546.5	3.76
G 4034-1188	01 23 51.73	+62 31 20.0 B	−0.1	11.7−12.1	0.90	DCEP	1378.1	6.03
G 4040-1803	01 46 31.45	+65 01 34.7 T	+2.8	10.8−11.1	0.44	DCEP	1492.0	2.113
G 4041-0264	02 14 24.76	+65 35 58.1 B	+4.1	11.8−12.4	0.71	DCEP	1522.7	5.03
G 3706-0233	03 14 54.54	+55 52 49.0 B	−1.5	11.9−12.3	0.89	DCEP	1401.9	3.22
G 3729-1127	03 48 25.69	+59 26 32.2 T	+3.9	10.0−10.5	0.90	DCEP	1473.8	5.07
G 3725-0174	03 56 22.43	+57 15 26.4 B	+2.9	11.9−12.2	0.58	DCEP	1495.1	3.09
G 3721-0495	03 57 29.74	+54 56 17.2 B	+1.2	11.2−11.7	0.84	DCEP	1493.9	8.2
B 1427-0131719	03 59 38.14	+52 47 26.6 B	−0.2	13.1−13.8	1.23	DCEP	1540.2	3.71
G 3722-0763	04 01 31.01	+55 02 43.5 B	+1.7	11.9−12.3	0.98	DCEP	1451.1	6.60
G 4072-0498	04 02 36.50	+64 26 52.9 B	+8.8	12.2−12.7	0.86	CWA	1488.2	12.3
B 1422-0133818	04 02 45.09	+52 12 17.5 B	−0.3	13.3−14.0	0.98	DCEP	1544.5	4.16
G 3726-0565	04 03 46.42	+57 14 51.9 B	+3.5	11.6−12.1	0.80	DCEP	1521.9	5.12
G 3732-0183	04 30 18.69	+53 56 24.6 B	+3.8	11.9−12.4	0.68	DCEP	1538.9	6.6
G 3346-0820	04 30 33.49	+48 04 42.7 U	−0.2	13.4−14.0	1.16	DCEP	1424.2	4.56
G 2413-1025	05 46 04.52	+34 45 28.1 U	+3.1	12.3−12.8	0.85	DCEP	1514.7	4.69
G 2418-1443	05 52 58.79	+36 23 37.2 U	+5.2	10.1−10.4	0.56	DCEP	1543.6	7.85
G 0754-1993	06 40 37.56	+11 43 38.9 U	+3.0	11.7−12.1	0.81	DCEP	1512.9	4.98
B 0978-0137047	06 45 33.74	+07 48 58.6 U	+2.3	12.7−13.4	0.51	DCEP	1602.7	2.43
G 2063-0653	16 53 08.65	+25 58 35.0 U	+36.5	9.9−10.2	0.52	CWA	1424.7	9.7
G 1049-1505	19 09 31.20	+11 48 54.5 U	+1.4	12.4−12.9	1.05	DCEP	1478.5	20.9
G 1603-0820	19 19 53.15	+17 14 25.7 U	+1.7	10.8−11.3	0.98	DCEP	1497.4	4.84
G 1050-0485	19 20 36.20	+12 47 37.4 U	−0.5	11.9−12.5	1.22	DCEP	1450.1	18.3
B 1091-0397807	19 29 24.97	+19 09 23.1 U	+0.6	13.0−13.7	1.01	DCEP	1487.2	6.13
B 1124-0469482	19 41 51.10	+22 24 13.0 U	−0.3	11.9−12.6	1.22	DCEP	1568.8	19.9
G 2145-0344	19 58 53.51	+24 23 42.3 U	−2.7	10.6−11.2	0.79	DCEP	1336.5	5.63
G 2679-0277	20 13 56.21	+35 19 41.5 U	+0.5	11.2−11.9	1.13	DCEP	1484.5	11.6
G 2683-3724	20 14 39.72	+35 39 14.5 U	+0.5	11.8−12.1	1.17	DCEP	1505.6	9.5
G 3179-0815	20 51 00.83	+43 08 23.6 U	−0.7	11.7−12.1	1.08	DCEP	1350.2	8.7
G 3575-3670	20 51 27.85	+46 18 13.5 B	+1.3	11.9−12.4	0.81	DCEP	1494.4	3.16
G 3967-3180	21 34 03.48	+53 18 36.3 B	+1.1	12.1−12.5	0.80	DCEP	1368.0	4.56
G 3971-1155	21 34 54.63	+55 56 32.2 B	+3.0	12.9−13.4	0.77	DCEP	1525.4	6.7
G 3616-1143	21 48 06.66	+51 15 30.5 B	−1.9	11.5−12.1	1.03	DCEP	1473.3	11.9
G 3616-1891	21 49 35.52	+52 23 42.8 T	−1.1	11.2−11.5	0.87	DCEP	1583.9	4.64
G 4265-0569	22 40 10.40	+60 33 49.8 B	+1.7	11.1−11.4	0.95	DCEP	1500.2	9.0
G 4265-0193	22 48 23.07	+60 24 17.4 B	+1.1	11.6−12.0	0.79	DCEP	1490.1	4.28
G 4283-0021	23 17 51.58	+62 08 04.8 T	+1.2	10.9−11.1	0.82	DCEP:	1573.0	3.62
G 4284-0427	23 32 38.97	+63 04 09.4 B	+1.5	12.2−12.6	0.99	DCEP	1551.2	4.74
G 4009-0024	23 56 26.68	+58 01 36.8 T	−4.1	11.7−12.1	0.79	DCEP	1455.9	4.74

Table 2. Cross-identifications.

GSC/USNO	Name
GSC 4030-1640	NSV 481
GSC 4034-1188	V556 Cas
GSC 4041-0264	NSV 752
GSC 3721-0495	MisV 1223
GSC 3722-0763	MisV 1224
USNO-B1.0 1422-0133818	MU Per
GSC 2418-1443	h5540
GSC 1603-0820	NSV 11913
GSC 2145-0344	HO Vul
GSC 2679-0277	NSV 12928
GSC 2683-3724	NSV 12945
GSC 3179-0815	V1662 Cyg
GSC 3575-3670	V1533 Cyg
GSC 3967-3180	V733 Cyg
GSC 3971-1155	NSV 13796
GSC 3616-1891	V1397 Cyg
GSC 4283-0021	NSV 14486
GSC 4284-0427	NSV 14606

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