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COORDINATES AND IDENTIFICATIONS FOR DOLIDZE S, C, AND MS STARS

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In the course of other work I have obtained complete identifications for a problematic list of late-type stars by Dolidze (1975a). The charts were used to make the identifications. Since numerous substantial errors were found that have propagated elsewhere in the literature, it was thought useful to publish the list separately. The corrections allow linkage of the stars to other catalogues in the visible and infrared. This complements a second similar list of late-M stars by Dolidze (Dolidze 1975b, Skiff 1997).

Table 1 lists the ninety-one stars along with the best available positions and principal identifications. The acronym '[D75b] Star' has been assigned to the stars in the Lortet *et al.* (1994) "Dictionary". An asterisk next to the name indicates a note following the table. The coordinates were drawn, in descending order of preference, from: UCAC1 (Zacharias *et al.* 2000), Tycho-2 (Høg *et al.* 2000), the 2MASS point-source catalogue (second release, Skrutskie *et al.* 2000), GSC-ACT (Gray 1999), USNO-A2.0 (Monet *et al.* 1998), or the recent GSC-2.2 (STScI 2001). The source of the positions is coded in column 's' as follows: A = USNO-A2.0, G = GSC-ACT, g = GSC-2.2, M = 2MASS, T = Tycho-2, U = UCAC1.

GSC and IRAS names are given as available. The MSX catalogue (Price *et al.* 2001) was a useful aid in identifying some of the stars. MSX identifications are shown in the notes for objects not appearing in the IRAS catalogue. Since no indication of brightness is given for the stars by Dolidze (or in SIMBAD), rough photo-blue magnitudes largely from USNO-A2.0 are listed for nearly all the stars. The spectral types are from Dolidze. As indicated in the notes, not all of these are correct, but are given as a record of the source paper. The last column shows mostly variable-star designations or names from the Stephenson S-star (1984, CSS) and carbon-star (1989, CGCS) or "reddened" star (Stephenson 1992, StRS) catalogues. Two-thirds of the stars have additional identifications and comments in the notes.

Table 1: Positions and identifications

[D75b]	RA (2000)	Dec	s	GSC	IRAS	mb	spec	Other IDs
1*	0 07 42.6	+60 22 54	-	4014-0240		15.1	S	CSS 4
2	0 46 53.27	+56 40 08.4	G	3663-1363	00439+5623		C	GW Cas
3	1 00 53.16	+56 36 45.2	T	3676-1346	00578+5620	10.9	S7,2	V365 Cas
4	1 28 36.19	+61 12 07.7	G	4031-2015	01252+6056		S	PQ Cas
5	1 29 44.00	+61 41 41.7	G	4031-1549	01263+6125	15.2	S	CSS 37
6*	1 35 09.71	+60 17 09.9	G	4031-2130	01318+6001	15.5	S	CSS 38
7*	1 54 19.71	+21 53 20.6	T	1212-0468	01515+2138	10.6	S7,3	NSV 15403

Table 1 (cont'd.): Positions and identifications

[D75b]	RA (2000)	Dec	s	GSC	IRAS	mb	spec	Other IDs
8	2 08 31.02	+62 22 44.5	G	4037-2533	02048+6208	14.4	S	CSS 47
9	2 18 52.44	+62 48 13.5	G	4050-0812	02151+6234	18.2	S	CSS 50
10	2 19 16.76	+59 42 21.5	G	3698-2179	02156+5928	15.1	MS	CSS 53
11*	2 21 20.28	+61 23 54.0	A		02176+6110	19.1	CS:	CSS2 9
12*	2 23 11.95	+63 51 58.1	G	4054-0897		17.1	S	StRS 44
13	2 24 44.77	+55 35 45.8	A			15.0	MS	
14*	2 25 19.32	+58 16 10.4	G	3698-2696		16.0	MS	
15	2 32 45.05	+58 14 37.5	G	3699-1448	02290+5801		C	DU Per
16*	2 38 33.45	+61 54 31.1	G	4051-2337		15.6	MS	CSS 59
17	2 40 29.35	+62 16 20.3	G	4051-2343	02365+6203	15	C	CGCS 388
18*	2 44 31.02	+60 18 49.6	G	4047-2083		16.8	C	
19	2 46 23.19	+60 08 20.0	G	4047-0252	02424+5955	16.3	S	CSS 64
20	2 51 36.05	+59 07 11.7	A		02478+5854	17.2	S	CSS 66
21*	2 53 44.55	+58 57 44.1	G	3713-1162	02498+5845	15.7	S	
22*	2 58 14.89	+61 43 07.2	A			16.2	S	CSS 68
23*	3 16 40.87	+58 23 53.4	G	3714-0995	03127+5812	15.3	C:	CGCS 467
24*	3 17 36.46	+59 41 52.3	A		03136+5930	17.7	S	CGCS 469
25*	3 39 50.79	+51 06 30.6	T	3325-0367	03361+5056	13.3	S	CSS 78
26*	4 28 18.53	+25 31 41.1	G	1833-0749	04252+2525	14.5	C(R)	V414 Tau
27*	4 56 07.33	+48 03 05.8	G	3348-2323		15.5	C:S:	
28*	4 59 15.25	+47 36 01.2	G	3348-0978	04554+4731	15.9	MS	
29*	5 06 30.15	+34 37 41.0	G	2397-0721		15.1	S	DK Aur
30*	5 11 33.59	+47 40 47.0	G	3349-0826		15.1	MS	CSS 122
31	5 11 39.28	+29 06 21.4	G	1858-0893	05085+2902	16.1	S	CSS 125
32*	5 25 29.98	+32 53 08.3	M	2407-0897		14.6	MS	CSS 136
33*	5 28 37.35	+34 02 28.1	M	2411-2106		15.2	MS	CSS 140
34*	5 29 33.67	+27 49 34.2	M	1856-0659		14.3	MS	
35	5 32 44.19	+29 02 51.7	M	1860-0128	05295+2900	16.8	MS	CSS 143
36	5 35 11.21	+37 45 46.0	M	2910-0836	05318+3743	17.1	MS	
37	5 36 52.06	+29 02 15.4	M		05336+2900	17.8	S	CSS 146
38*	5 38 17.62	+28 11 44.1	M	1873-0803	05350+2809	14.7	S	CSS 148
39	5 38 22.19	+35 37 29.2	G	2412-0264	05350+3535	16.1	S	CSS 147
40*	5 39 15.52	+20 28 55.3	M			14.9	S:C:	
41*	5 53 10.07	+29 13 27.9	M	1875-0733		14.9	S	CSS 169
42	6 02 37.80	+29 07 05.8	M	1876-1740		15.1	MS	CSS 180
43	6 05 27.89	+22 20 42.1	M		06024+2220	15.7	MS	CSS 185
44	6 08 26.23	+28 06 43.1	M	1885-1055	06052+2807	13.9	S	CSS 188
45	6 08 44.67	+31 09 41.1	M	2419-1008	06054+3110	15.0	S	CSS 189
46*	6 09 32.97	+31 31 46.6	M		06062+3132	14.9	MS	CSS 190
47*	6 10 09.60	+23 33 00.9	M			14.7	MS:	CSS 193
48	6 10 34.60	+23 38 54.4	M	1877-1613	06075+2339	13.9	MS:	CSS 195
49*	6 18 52.52	+21 12 16.1	M	1327-1382		15.2	MS:	CSS 208
50	6 23 52.89	+21 18 30.1	T	1327-1623	06208+2120	13.4	S	CSS 214
51	6 36 27.03	+07 00 33.3	G	0158-0371	06337+0703	14.9	S	CSS 232
52*	6 39 03.23	+02 34 00.2	A			15.2	MS	CSS 240
53	6 43 56.34	+01 44 59.3	A		06413+0148	14.9	S	CSS 249
54*	6 44 42.71	+07 03 58.2	G	0159-3098		15	S	CSS 250
55*	6 44 29.74	−02 32 32.0	M	4803-1048	06419−0229	14.2	S	NSV 3190
56	6 45 32.39	+06 47 06.4	G	0160-2107		15.1	S	CSS 255
57	6 47 36.24	+09 38 19.6	G	075102499	06448+0941	15.3	MS	BF Mon
58	6 48 08.67	+06 29 24.1	A		06454+0632	15.6	S	CSS 259
59	6 48 57.08	+06 56 33.2	G	0160-0959	06462+0659	14.0	S	CSS 262
60	6 55 40.14	−05 31 02.4	G	4809-0418	06532−0527	14.4	S	EN Mon
61*	7 14 01.66	−14 36 00.7	T	5406-0728	07117−1430	12.8	C5,2	NSV 3471
62*	7 23 08.35	−14 16 15.0	G	5407-2172	07208−1410	16.0	C3,3	CGCS 1684

Table 1 (cont'd.): Positions and identifications

[D75b]	RA (2000)	Dec	s	GSC	IRAS	mb	spec	Other IDs
63*	16 08 54.56	−21 56 18.9	U	6213-1036		14.7	C:S:	
64	18 22 42.51	−16 29 28.2	U		18198−1631	16.8	S:C:	CSS 1035
65*	18 23 34.97	−17 05 10.2	U	6269-0443		12.8	S	CSS 1036
66	18 33 02.93	−19 46 26.1	G	6275-0751	18300−1948	13.3	S	V2003 Sgr
67	18 30 34.57	+36 14 57.0	T	2636-0435	18288+3612	9.3	M7Se	V530 Lyr
68*	20 06 33.96	+24 26 00.0	T	2158-0309	20044+2417	13.7	S4,2	DK Vul
69*	20 09 10.39	+21 57 03.1	T	1630-2890	20069+2148	12.4	C2,5	NSV 12842
70	20 12 32.28	+46 51 13.7	G	3559-2601	20109+4642	15.3	S	CSS 1197
71	20 13 08.46	+48 34 45.0	T	3563-0623	20116+4825	14.1	C	V1955 Cyg
72*	20 27 08.12	+36 33 06.5	T	2697-0092	20252+3623	13.2	S	V441 Cyg
73*	20 28 06.44	+42 55 07.2	M		20263+4245	18	C	CGCS 4868
74	20 41 28.71	+36 35 02.5	M		20395+3624	16.8	C	CGCS 4936
75*	20 45 55.29	+36 32 18.6	M	2699-2004		15	S	CSS 1238
76*	20 47 43.36	+34 19 03.3	M	2695-3678	20457+3408	15.8	S	V1976 Cyg
77*	20 49 46.16	+11 29 41.7	T	1098-1282	20473+1118	8.4	K2p	HD 198403
78*	20 50 41.32	+39 49 41.3	A			17.4	S	NSV 25365
79*	21 01 19.71	+36 25 53.8	M			14.4	S	V1896 Cyg
80*	21 14 19.81	+38 00 58.5	M			18.8	SC:	V1235 Cyg
81*	21 37 19.03	+47 59 59.1	M			17.0	S	CSS 1280
82*	21 44 29.21	+50 57 16.8	A			16.2	S	CSS 1282
83*	21 55 24.87	+63 53 21.4	G	4270-0794	21540+6339	14.8	C	CGCS 5508
84*	22 04 06.10	+59 52 45.2	G	3981-1326		16.5	S	CSS 1289
85*	22 08 33.64	+63 34 54.0	G	4267-2710		15.2	C	V513 Cep
86	22 09 47.53	+61 09 36.2	G	4263-1284	22081+6054	14.8	MS	
87	22 23 54.88	+57 00 16.5	A		22220+5645	16.3	S	CSS 1297
88*	23 14 52.69	+49 37 40.9	T	3631-1405	23125+4921	12.8	S4,3	BD+48°3979
89*	23 37 39.74	+58 50 45.9	g		23352+5834		S	V850 Cas
90	23 46 18.48	+66 49 27.6	G	4293-0030	23439+6632	16.5	MS	
91*	23 57 21.31	+58 25 03.7	A		23548+5808	16.6	S:C:	V653 Cas

Notes:

1 the proper-motion star G 217-32; position is for epoch 2000; probably not S type
6 Dolidze position grossly in error
7 BD +21°255 = DO 8975 (K5)
11 middle star in a 20″ arc of three
12 CSS 55 = MSX5C G132.8280+02.7717
14 MSX5C G135.0340−02.3791
16 MSX5C G135.1851+01.6128
18 [ABC90] maa 28 = MSX5C G136.4983+00.4551
21 S1* 52; M star, not S; see CSS rejected stars
22 MSX5C G137.3620+02.4544; previously erroneously identified as IRAS 02545+6133 (wrong Dolidze position, IRAS fluxes are for a nebula)
23 DO 26880 (N) = MSX5C G141.0116+00.7197
24 S1* 55 = CSS 71
25 DO 27408 (M2)
26 CGCS 696
27 ID assumes Dolidze chart has wrong star marked
28 Dolidze position switched with star 30, *cf.*
29 NIKC 5-7 = MSX5C G170.6337−03.7048
30 Dolidze position switched with star 28, *cf.*; in open cluster NGC 1798
32 MSX5C G174.3450−01.4985
33 MSX5C G173.7492−00.3139
34 MSX5C G179.0448−03.5796
38 MSX5C G179.7805−01.7574, IRAS position poor
40 not confirmed as S type by Stephenson (1984), but 2MASS $J-K=1.6$
41 MSX5C G180.6024+01.5613
46 previously erroneously identified as HD 252257 (F5) = BD +31°1209, for which Tycho-2 $B-V=0.54$

47 MSX5C G187.4163+02.0648
49 MSX5C G190.4408+02.7191
52 MSX5C G209.2346−01.5810
54 MSX5C G205.8757+01.7297
55 CSS 251
56 also CSS 253: CSS has $-30'$ Dec typo; MSX5C G206.2205+01.7840
61 CGCS 1610 = CSS 323; Dolidze $-1^{\rm m}/+10'$ position error. CGCS 1610 previously erroneously identified as GSC 5406-1554, for which Tycho-2 $B-V=0.43$
62 same as CGCS 1687
63 late-M type according to Stephenson CGCS reject list
65 MSX5C G014.6028−01.7665
68 DO 18567 (M6)
69 CGCS 4693
72 DO 19014 (M5); S4,6 (Stephenson 1984)
73 Kiso C3-26
75 MSX5C G077.9334−04.0741; previously erroneously identified as IRAS 20438+3622, which is another red star in the field
76 CSS 1240
77 Dolidze notes that CH and BaII are possibly present in the spectrum
78 MSX5C G081.0885−02.7369
79 CSS 1256
80 ID assumes Dolidze chart has wrong star marked
81 MSX5C G092.7896−03.1822
82 MSX5C G095.6156−01.7247
83 this star is *not* IRAS 21540+6341 = V500 Cep, which is a much fainter star $3'$ north in the open cluster Berkeley 93 (and probably an M-supergiant, not a carbon star)
84 MSX5C G103.3386+03.5334
85 CGCS 5591; the carbon star was previously erroneously identified as GSC 4267-1485, which is a blue star (Tycho-2 $B-V=0.23$)
88 CSS 1326 = DO 42750 (M4); Dolidze $-1^{\rm h}$ RA error
89 type M5/7 in Dolidze (1975b)
91 CSS 1344

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