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POSITIONS OF VARIABLE STARS IN PLAUT'S FIELD 1

In the course of the Palomar-Groningen variable star survey, the late Prof. L. Plaut discovered several thousand variable stars in Baade windows. His record is the world-second by number of variables discovered by a single person, after C. Hoffmeister. Prof. Plaut's results were ultimately used for the well-known study of the spatial distribution of RR Lyrae stars in the central region of our Galaxy (Oort and Plaut, 1975). The majority of variables discovered by Plaut remain studied only by him. One of the reasons for this is that finding charts were not published for these stars. In the seventies, Prof. Plaut very courteously sent photographic charts of variable stars discovered by him to the compilers of the General Catalogue of Variable Stars. So we have a unique possibility to check positions and possible identifications of these stars and to provide the astronomical community with information necessary to find these objects in the sky.

The present paper deals with the variable stars in the Palomar-Groningen Field 1 (Plaut, 1966). 77 variables were discovered in the field, 12 of them being rediscoveries. We have compared the finding charts for all of them with corresponding fields of the Hubble Space Telescope Guide Star Catalog. For this purpose, sky regions from the GSC catalog were visualized on a computer display. 30 stars have been identified with the GSC, the results are presented in Table 1. The columns of this Table are self-explanatory. Table 1 also contains GSC identifications for five GCVS stars discovered not by Plaut. These stars are indicated by an asterisk in the last column. Plaut's star No. 32 (V771 Sco) appears double on Plaut's charts, we present co-ordinates for the brighter component. GSC co-ordinates for the star No. 45 (V784 Sco) differ noticeably (by 0'5) from those given by Plaut.

For those stars not present in the GSC, we have checked the agreement of their positions in the finding charts with co-ordinates published by Plaut or given in the GCVS. In most cases the agreement is very good. The position of No. 57 (V797 Sco) in Plaut (1966) is wrong by 1° in declination, its correct co-ordinates must be $16^{\text{h}}09^{\text{m}}01^{\text{s}}$, $-14^{\circ}52'7$ (1950.0); this agrees with the star's schematic position in Fig. 4 in Plaut (1966). Other noticeable discrepancies have been found only in 3 cases presented in Table 2. The co-ordinates in this Table have been measured by us relative to neighboring GSC stars. The GCVS position for No. 8 (EX Lib) was given according to Hanley (1942); our present position agrees better with Plaut (1966). The GCVS position for No. 56 (V798 Sco) rests upon corrected co-ordinates communicated by Plaut to the compilers; the co-ordinates found by us differ considerably from the co-ordinates in Plaut (1966) and from the GCVS co-ordinates.

Table 1

No. Plaut	GCVS	α_{2000}	δ_{2000}	GSC
2	EU Lib	15 ^h 54 ^m 08.7	-10°50'36"	5614-0851
	GP Lib	15 54 29.2	-10 52 30	5614-0765 *
3	DT Lib	15 54 36.8	-11 11 28	5614-0609
5	DU Lib	15 55 14.0	-13 19 06	5622-1303
7	SW Lib	15 55 33.4	-12 51 04	5618-0788
12	FG Lib	15 56 58.7	-14 28 27	5622-1480
	DW Lib	15 57 30.7	-14 04 50	5623-0863 *
14	FI Lib	15 57 42.8	-14 44 11	5623-0382
	DX Lib	15 58 38.2	-13 40 25	5623-1017 *
16	FL Lib	15 58 40.4	-11 19 52	5619-1223
18	UV Lib	15 59 10.7	-14 10 55	5623-0576
24	FR Lib	16 00 15.9	-14 21 41	5623-0740
25	FS Lib	16 00 23.7	-12 20 58	5619-0068
26	FT Lib	16 00 52.1	-13 07 10	5619-0545
27	FU Lib	16 01 00.9	-09 26 36	5615-0235
28	V767 Sco	16 03 20.8	-10 30 11	5615-0464
29	V768 Sco	16 03 25.9	-13 19 31	5623-1134
31	V770 Sco	16 03 44.2	-13 06 49	5619-0373
32	V771 Sco	16 03 51.6	-13 10 32	5623-0577
33	V772 Sco	16 03 53.7	-12 27 54	5619-0172
40	V779 Sco	16 06 25.1	-14 34 40	5624-1376
44	V783 Sco	16 08 36.4	-12 06 28	5620-0573
45	V784 Sco	16 08 48.9	-14 38 45	5624-0978
49	V790 Sco	16 09 48.5	-14 37 16	5624-0608
54	V795 Sco	16 11 21.5	-13 55 49	5624-0343
58	V799 Sco	16 12 31.1	-14 42 03	5624-1026
60	V801 Sco	16 12 53.6	-12 09 44	5621-0363
	V854 Sco	16 13 15.7	-09 53 24	5617-0730 *
61	V802 Sco	16 13 19.7	-13 31 36	5625-0196
65	V806 Sco	16 14 43.7	-10 42 53	5617-0524
	KU Sco	16 15 01.3	-13 45 53	5625-0887 *
66	V559 Sco	16 15 04.0	-09 47 07	5617-0938
72	V812 Sco	16 15 57.9	-14 43 08	5625-0974
74	V814 Sco	16 16 19.1	-12 47 12	5621-0146
77	V817 Sco	16 18 13.2	-12 56 21	5621-0063

Table 2

No. Plaut	GCVS	α_{2000}	δ_{2000}
8	EX Lib	15 ^h 54 ^m 41 ^s .0	-12°47'34"
56	V798 Sco	16 04 07.5	-12 59 30
48	V789 Sco	16 10 02.4	-12 18 01

We appeal to Dutch researchers having access to the material used by Prof. Plaut to check the problems raised in our publication.

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S. V. ANTIPIN

Sternberg Astronomical Institute,
13, University Ave., Moscow 119899,
Russia

N. N. KIREEVA

N. N. SAMUS

Institute of Astronomy of
Russian Acad. Sci.,
48, Pyatnitskaya Str., Moscow 109017,
Russia

References:

- Hanley, G.M., 1942, *Harvard Annals*, **109**, No. 3.
Oort, J. and Plaut, L., 1975, *Astron. Astrophys.*, **41**, 71.
Plaut, L., 1966, *Bull. Astron. Inst. Netherl., Suppl. Ser.*, **1**, No. 3.