

OBSERVATIONS OF MINOR PLANETS MADE AT THE SKALNATÉ PLESO OBSERVATORY IN THE
YEAR 1972

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ABSTRACT. The paper presents the results of position photographing of minor planets carried out at the Skalnaté Pleso Observatory in the year 1972. 180 observations of 80 minor planets are given together with the list of reference stars and dependences.

НАБЛЮДЕНИЯ МАЛЫХ ПЛАНЕТ НА ОБСЕРВАТОРИИ СКАЛНАТЕ ПЛЕСО В 1972 Г. Работа приводит результаты фотографических положений малых планет наблюдаемых на обсерватории Скалнате Плесо в 1972 г. Работа содержит 180 наблюдений 80 малых планет вместе со списком опорных звезд и зависимостей.

POZOROVANIA ASTEROIDOV NA OBSERVATÓRIU NA SKALNATOM PLESE V ROKU 1972. V práci sú uvedené výsledky pozičných fotografovaní asteroidov na observatóriu na Skalnatom Plese za rok 1972. Je uvedených 180 pozorovaní 80 asteroidov spolu so zoznamom referenčných hviezd a dependencií.

1. INTRODUCTION

The presented paper is a continuation of the previous paper which gave the results of positional observations of minor planets obtained at Skalnaté Pleso Observatory (Antal, 1973). It contains observations made in the year 1972. The reduction constants as well as methods of observation and processing and all the other necessary data which need not be repeated here are given in our paper on comets (Pittich, Svoreň; this volume).

A list of reference stars and dependences and a list of collaborators are also given, together with their share in photographing, measuring and reducing the positions.

2. POSITIONS OF MINOR PLANETS

The data have been arranged according to serial numbers of minor planets. The individual columns of the tables containing the following:

N - number of observation,
 Minor planet - number and name of minor planet,
 Date U.T. - date and time of the middle of the exposure,
 R.A. 1950.0 - right ascension for equinox 1950.0,
 Decl. 1950.0 - declination for equinox 1950.0,
 O - observer,
 M - measurer,
 R - reduction.

N	Minor planet	Date U.T.	R.A. 1950.0	Decl. 1950.0	O	M	R
1	11 Parthenope	1972 Feb. 16.77431	8 ^h 57 ^m 27.81 ^s	+18°46'40.3"	L	L	P
2	11 Parthenope	Feb. 16.85486	8 57 23.28	+18 47 06.1	L	L	P
3	17 Thetis	Feb. 16.77431	8 38 09.75	+19 55 01.7	L	L	P
4	17 Thetis	Feb. 16.85486	8 38 05.40	+19 55 27.0	L	L	P
5	19 Fortuna	Feb. 7.76042	6 32 13.30	+20 47 48.1	L	L	P
6	19 Fortuna	Feb. 7.80486	6 32 12.41	+20 47 51.4	L	L	P
7	20 Massalia	Nov. 28.86736	3 40 18.87	+18 48 22.1	L	L	P
8	20 Massalia	Nov. 28.91667	3 40 15.79	+18 48 11.8	L	L	P
9	24 Themis	Aug. 15.91458	23 08 25.98	- 6 28 20.2	L	L	P
10	24 Themis	Aug. 15.95208	23 08 24.65	- 6 28 28.6	L	L	P
11	28 Bellona	Sep. 5.91181	0 43 52.46	- 4 05 00.2	L	L	P
12	28 Bellona	Sep. 5.95347	0 43 51.09	- 4 05 17.8	L	L	P
13	47 Aglaja	Feb. 16.77431	8 56 05.92	+22 47 14.7	L	L	P
14	47 Aglaja	Feb. 16.85486	8 56 01.83	+22 47 23.9	L	L	P
15	52 Europa	Feb. 7.76042	6 59 09.03	+20 08 12.0	L	L	P
16	52 Europa	Feb. 7.80486	6 59 07.73	+20 08 22.2	L	L	P
17	59 Elpis	Oct. 31.83958	2 48 25.76	+ 4 28 42.9	L	L	P
18	59 Elpis	Oct. 31.90069	2 48 22.55	+ 4 28 19.0	L	L	P

N	Minor planet	Date U.T.	R.A. 1950.0	Decl. 1950.0	O	M	R
19	70 Panopaea	1972 Oct. 31.81875	2 ^h 20 ^m 02.99 ^s	+10°07'02.5"	L	L	P
20	70 Panopaea	Oct. 31.88403	2 19 58.78	+10 07 01.5	L	L	P
21	70 Panopaea	Nov. 1.91111	2 18 53.48	+10 06 37.7	L	L	P
22	70 Panopaea	Nov. 1.97708	2 18 49.18	+10 06 36.4	L	L	P
23	81 Terpsichore	Feb. 16.94792	9 31 38.44	+23 02 21.0	L	L	P
24	81 Terpsichore	Feb. 17.00625	9 31 34.89	+23 02 27.0	L	L	P
25	93 Minerva	Aug. 15.93333	22 53 15.37	-15 14 12.6	L	L	P
26	93 Minerva	Aug. 15.97222	22 53 13.36	-15 14 18.1	L	L	P
27	96 Aegle	Sep. 7.89167	0 06 36.54	+16 16 07.6	L	L	P
28	96 Aegle	Sep. 7.94097	0 06 34.24	+16 16 07.2	L	L	P
29	100 Hekate	Oct. 6.00764	1 40 41.31	+ 0 29 44.9	L	L	P
30	100 Hekate	Oct. 6.04792	1 40 39.59	+ 0 29 32.3	L	L	P
31	106 Dione	Feb. 16.94792	9 35 02.57	+21 16 29.2	L	L	P
32	106 Dione	Feb. 17.00625	9 34 59.69	+21 16 43.1	L	L	P
33	107 Camilla	Oct. 6.00764	1 43 18.43	+ 3 45 08.6	L	L	P
34	107 Camilla	Oct. 6.04792	1 43 16.88	+ 3 44 52.8	L	L	P
35	108 Hecuba	Feb. 16.77431	8 41 28.19	+22 20 32.5	L	L	P
36	108 Hecuba	Feb. 16.85486	8 41 24.52	+22 20 37.5	L	L	P
37	114 Cassandra	Aug. 15.91458	23 08 58.98	- 4 44 47.2	L	L	P
38	114 Cassandra	Aug. 15.95208	23 08 57.52	- 4 44 59.2	L	L	P
39	115 Thyra	Feb. 16.79931	8 48 05.93	+14 42 35.6	L	L	P
40	115 Thyra	Feb. 16.87778	8 48 00.94	+14 42 31.1	L	L	P
41	116 Sirona	Aug. 15.93333	22 43 35.44	-13 41 49.9	L	L	P
42	116 Sirona	Aug. 15.97222	22 43 33.75	-13 42 00.4	L	L	P
43	127 Johanna	Aug. 15.93333	22 47 47.71	-19 21 01.0	L	L	P
44	127 Johanna	Aug. 15.97222	22 47 45.88	-19 21 11.3	L	L	P
45	130 Elektra	Feb. 16.97708	9 40 10.61	+13 10 29.3	L	L	P
46	130 Elektra	Feb. 17.02986	9 40 08.20	+13 10 57.6	L	L	P
47	135 Hertha	Feb. 16.77431	8 58 16.98	+18 46 58.0	L	L	P
48	135 Hertha	Feb. 16.85486	8 58 12.29	+18 47 13.7	L	L	P
49	169 Zelia	Feb. 7.78264	8 00 39.56	+27 16 22.1	L	L	P
50	169 Zelia	Feb. 7.82708	8 00 36.87	+27 16 22.4	L	L	P
51	174 Phaedra	Feb. 16.97708	9 40 22.34	+15 11 41.9	L	L	P
52	174 Phaedra	Feb. 17.02986	9 40 19.21	+15 11 45.1	L	L	P
53	175 Andromache	Feb. 7.76042	6 47 31.47	+27 14 32.0	L	L	P
54	175 Andromache	Feb. 7.80486	6 47 30.12	+27 14 31.3	L	L	P
55	181 Eucharis	Feb. 16.97708	9 43 27.78	+14 12 50.9	L	L	P
56	181 Eucharis	Feb. 17.02986	9 43 25.39	+14 13 29.2	L	L	P
57	184 Dejopeja	Oct. 31.81875	2 15 59.75	+15 11 07.2	L	L	P
58	184 Dejopeja	Oct. 31.88403	2 15 56.59	+15 10 52.3	L	L	P
59	189 Phthia	Feb. 16.82222	9 01 49.02	+ 9 01 17.8	L	L	P
60	189 Phthia	Feb. 16.90069	9 01 44.71	+ 9 01 44.7	L	L	P
61	200 Dynamene	Feb. 16.97708	9 29 13.36	+15 17 39.2	L	L	P
62	200 Dynamene	Feb. 17.02986	9 29 10.29	+15 17 44.7	L	L	P
63	208 Lacrimosa	Sep. 5.89167	23 35 10.67	- 3 26 08.7	L	L	P

N	Minor planet	Date U.T.	R.A. 1950.0	Decl. 1950.0	O	M	R
64	208 Lacrimosa	1972 Sep. 5.93333	23 ^h 35 ^m 08.78 ^s	- 3°26'19.8"	L	L	P
65	236 Honoria	Feb. 16.82222	8 43 19.58	+ 9 19 54.5	L	L	P
66	236 Honoria	Feb. 16.90069	8 43 16.06	+ 9 20 19.2	L	L	P
67	269 Justitia	Nov. 1.91111	2 18 01.11	+ 6 08 19.9	L	L	P
68	269 Justitia	Nov. 1.97708	2 17 57.28	+ 6 07 58.1	L	L	P
69	275 Sapientia	July 11.96736	20 02 47.65	-18 07 31.8	L	L	P
70	275 Sapientia	July 12.01250	20 02 45.35	-18 07 41.8	L	L	P
71	278 Paulina	Nov. 1.91111	2 24 55.82	+ 9 22 31.5	L	L	P
72	278 Paulina	Nov. 1.97708	2 24 52.31	+ 9 22 23.3	L	L	P
73	286 Iclea	Feb. 16.79931	8 37 14.48	+11 32 18.8	L	L	P
74	286 Iclea	Feb. 16.87778	8 37 10.22	+11 32 14.2	L	L	P
75	287 Nephthys	Aug. 14.96944	22 12 43.71	-12 38 42.4	L	L	P
76	287 Nephthys	Aug. 15.03125	22 12 40.57	-12 39 19.6	L	L	P
77	298 Baptistina	Oct. 30.87778	2 17 32.28	+19 39 16.2	L	L	P
78	298 Baptistina	Oct. 30.93819	2 17 27.97	+19 39 05.2	L	L	P
79	302 Clarissa	Sep. 5.89167	23 35 06.15	- 4 51 49.1	L	L	P
80	302 Clarissa	Sep. 5.93333	23 35 03.89	- 4 51 59.4	L	L	P
81	332 Siri	Aug. 14.96944	22 19 15.55	-15 01 39.0	L	L	P
82	332 Siri	Aug. 15.03125	22 19 12.59	-15 01 55.1	L	L	P
83	338 Budrosa	Nov. 2.04931	3 43 18.67	+27 20 05.5	L	L	P
84	338 Budrosa	Nov. 2.08403	3 43 16.91	+27 19 59.3	L	L	P
85	347 Pariana	Oct. 31.83958	2 38 01.13	+ 1 29 08.3	L	L	P
86	347 Pariana	Oct. 31.90069	2 37 57.46	+ 1 29 00.4	L	L	P
87	355 Gabriella	Sep. 5.89167	23 36 16.52	- 2 54 57.0	L	S	S
88	355 Gabriella	Sep. 5.93333	23 36 14.33	- 2 55 07.4	L	S	S
89	364 Isara	Feb. 7.76042	6 36 18.96	+25 13 11.7	L	L	P
90	364 Isara	Feb. 7.80486	6 36 18.14	+25 13 20.6	L	L	P
91	377 Campania	Aug. 14.93646	21 42 48.15	- 3 22 14.6	L	L	P
92	377 Campania	Aug. 15.00590	21 42 44.83	- 3 22 44.4	L	L	P
93	379 Huenna	Feb. 8.91042	8 04 58.87	+18 37 43.3	L	L	P
94	379 Huenna	Feb. 8.98542	8 04 55.58	+18 37 54.8	L	L	P
95	389 Industria	Oct. 5.92569	2 08 42.70	+25 25 22.0	L	L	P
96	389 Industria	Oct. 5.98333	2 08 39.84	+25 25 12.6	L	L	P
97	389 Industria	Oct. 30.85556	1 46 29.25	+23 31 26.3	L	L	P
98	389 Industria	Oct. 30.91736	1 46 25.81	+23 31 01.6	L	L	P
99	394 Arduina	Oct. 30.90000	2 50 15.62	+11 24 42.2	L	L	P
100	394 Arduina	Oct. 30.95486	2 50 12.40	+11 24 35.8	L	L	P
101	403 Cyane	Sep. 7.91111	0 52 18.52	+17 31 00.7	L	L	P
102	403 Cyane	Sep. 7.95903	0 52 16.90	+17 30 55.3	L	L	P
103	416 Vaticana	Nov. 1.91111	2 41 56.01	+ 9 41 19.2	L	L	P
104	416 Vaticana	Nov. 1.97708	2 41 52.27	+ 9 41 13.6	L	L	P
105	442 Eichsfeldia	Aug. 14.96944	22 18 16.78	-13 03 42.5	L	L	P
106	442 Eichsfeldia	Aug. 15.03125	22 18 13.42	-13 04 12.5	L	L	P
107	517 Edith	Feb. 8.91042	8 05 48.85	+17 42 31.2	L	L	P

N	Minor planet	Date U.T.	R.A. 1950.0	Decl. 1950.0	O	M	R
108	517 Edith	1972 Feb. 8.98542	8 ^h 05 ^m 45.41 ^s	+17°42'39.3"	L	L	P
109	545 Messalina	Oct. 5.92569	1 56 54.58	+25 53 18.9	L	L	P
110	545 Messalina	Oct. 5.98333	1 56 51.57	+25 53 16.9	L	L	P
111	545 Messalina	Oct. 30.85556	1 35 16.24	+24 54 27.8	L	L	P
112	545 Messalina	Oct. 30.91736	1 35 13.07	+24 54 13.8	L	L	P
113	551 Ortrud	Feb. 16.97708	9 25 08.39	+15 39 03.4	L	L	P
114	551 Ortrud	Feb. 17.02986	9 25 05.77	+15 39 15.5	L	L	P
115	558 Carmen	Sep. 5.91181	0 43 00.31	- 3 20 25.3	L	L	P
116	558 Carmen	Sep. 5.95347	0 42 59.06	- 3 20 42.2	L	L	P
117	569 Misa	Feb. 16.79931	9 02 10.45	+16 13 40.4	L	L	P
118	569 Misa	Feb. 16.87778	9 02 06.29	+16 13 56.0	L	L	P
119	584 Semiramis	Feb. 16.82222	8 55 42.67	+ 6 42 53.6	L	L	P
120	584 Semiramis	Feb. 16.90069	8 55 37.90	+ 6 43 05.3	L	S	S
121	589 Croatia	Feb. 8.94167	8 36 23.00	+ 7 00 49.6	L	L	P
122	589 Croatia	Feb. 9.01111	8 36 19.90	+ 7 01 12.9	L	L	P
123	645 Agrippina	Feb. 16.94792	9 45 49.66	+20 23 09.9	L	L	P
124	645 Agrippina	Feb. 17.00625	9 45 46.51	+20 23 16.3	L	L	P
125	662 Newtonia	Feb. 7.76042	6 31 50.07	+20 33 17.3	L	L	P
126	662 Newtonia	Feb. 7.80486	6 31 50.59	+20 34 14.8	L	L	P
127	675 Ludmilla	July 11.96736	19 38 28.54	-14 08 11.6	L	L	P
128	675 Ludmilla	July 12.01250	19 38 26.07	-14 08 08.8	L	L	P
129	720 Bohlinia	Feb. 7.78264	7 38 20.50	+25 04 05.6	L	L	P
130	720 Bohlinia	Feb. 7.82708	7 38 18.50	+25 04 08.7	L	L	P
131	783 Nora	Aug. 14.96944	22 21 17.78	-12 08 33.5	L	L	P
132	783 Nora	Aug. 15.03125	22 21 15.38	-12 09 21.1	L	L	P
133	790 Pretoria	Nov. 2.04931	3 29 05.49	+29 00 56.6	L	L	P
134	790 Pretoria	Nov. 2.08403	3 29 03.88	+29 00 45.0	L	L	P
135	790 Pretoria	Nov. 28.85000	3 08 12.08	+25 58 58.0	L	L	P
136	790 Pretoria	Nov. 28.89722	3 08 10.06	+25 58 37.4	L	L	P
137	822 Lalage	Nov. 28.86736	3 46 03.91	+19 05 36.7	L	L	P
138	822 Lalage	Nov. 28.91667	3 46 00.86	+19 05 26.6	L	L	P
139	866 Fatme	Feb. 7.82708	8 00 39.82	+27 09 12.4	L	L	P
140	872 Holda	Aug. 14.93646	21 40 18.70	- 4 07 53.2	L	L	P
141	872 Holda	Aug. 15.00590	21 40 15.59	- 4 08 10.7	L	L	P
142	906 Repsolda	Oct. 6.00764	1 38 12.62	+ 3 09 26.4	L	S	S
143	906 Repsolda	Oct. 6.04792	1 38 10.41	+ 3 09 22.8	L	S	S
144	965 Angelica	Oct. 30.90000	2 32 03.70	+13 18 11.6	L	L	P
145	965 Angelica	Oct. 30.95486	2 32 00.55	+13 17 37.8	L	L	P
146	975 Perseverantia	Oct. 31.81875	2 11 14.66	+13 01 56.4	L	S	S
147	975 Perseverantia	Oct. 31.88403	2 11 11.04	+13 01 42.7	L	L	P
148	987 Wallia	Oct. 5.92569	2 00 57.49	+25 36 35.4	L	L	P
149	987 Wallia	Oct. 5.98333	2 00 54.61	+25 36 32.6	L	L	P
150	987 Wallia	Oct. 30.85556	1 39 21.23	+24 32 28.7	L	L	P
151	987 Wallia	Oct. 30.91736	1 39 17.86	+24 32 12.8	L	L	P
152	1036 Ganymed	July 21.97431	2 28 53.35	+38 07 41.6	A	A	D

N	Minor planet	Date U.T.	R.A. 1950.0	Decl. 1950.0	O	M	R
153	1036 Ganymed	1972 July 21.98125	2 ^h 28 ^m 55.02 ^s	+38°07'41.4"	A	A	D
154	1036 Ganymed	July 24.01042	2 37 05.17	+38 04 21.3	A	A	P
155	1036 Ganymed	July 26.02292	2 45 06.17	+37 58 34.0	A	A	P
156	1036 Ganymed	July 26.03125	2 45 08.23	+37 58 32.4	A	A	P
157	1036 Ganymed	Aug. 9.97289	3 41 04.36	+36 03 00.6	S	G	N
158	1036 Ganymed	Aug. 10.00556	3 41 11.16	+36 02 38.4	S	G	N
159	1036 Ganymed	Aug. 12.93924	3 51 14.29	+35 25 55.5	S	N	N
160	1036 Ganymed	Aug. 12.97049	3 51 20.57	+35 25 32.6	S	N	N
161	1062 Ljuba	Oct. 30.87778	2 42 22.36	+23 37 26.2	L	L	P
162	1062 Ljuba	Oct. 30.93819	2 42 19.04	+23 37 17.4	L	L	P
163	1062 Ljuba	Nov. 30.80694	2 17 31.75	+21 48 41.0	L	L	P
164	1062 Ljuba	Nov. 30.84722	2 17 30.35	+21 48 31.8	L	L	P
165	1107 Lictoria	Oct. 31.83958	2 56 59.30	+ 6 35 08.2	L	L	P
166	1107 Lictoria	Oct. 31.90069	2 56 56.49	+ 6 34 57.8	L	L	P
167	1107 Lictoria	Nov. 30.86806	2 34 34.52	+ 5 41 08.0	L	L	P
168	1107 Lictoria	Nov. 30.90972	2 34 33.01	+ 5 41 06.6	L	L	P
169	1243 Pamela	Oct. 5.92569	2 03 41.70	+24 41 58.1	L	L	P
170	1243 Pamela	Oct. 5.98333	2 03 39.44	+24 41 39.1	L	L	P
171	1284 Latvia	Sep. 7.89167	0 24 46.23	+19 32 34.5	L	L	P
172	1284 Latvia	Sep. 7.94097	0 24 44.18	+19 32 42.4	L	L	P
173	1469 Linzia	Nov. 30.86806	2 42 52.19	+ 2 46 28.4	L	L	P
174	1469 Linzia	Nov. 30.90972	2 42 50.79	+ 2 46 20.0	L	L	P
175	1527 Malmquista	Aug. 15.93333	22 47 31.56	-16 57 25.4	L	L	P
176	1527 Malmquista	Aug. 15.97222	22 47 29.62	-16 57 30.5	L	L	P
177	1547 Nele	Feb. 16.82222	8 57 38.42	+ 6 20 03.1	L	L	P
178	1547 Nele	Feb. 16.90069	8 57 33.83	+ 6 19 59.0	L	S	S
179	1738 Oosterhoff	Sep. 5.91181	0 39 33.59	- 4 42 39.8	L	L	P
180	1738 Oosterhoff	Sep. 5.95347	0 39 31.99	- 4 42 45.4	L	L	P

3. REFERENCE STARS AND DEPENDENCES

The individual columns of the tables containing the following:

N - number of the observation in agreement with the Section 2,

Catalogue - the catalogue of reference stars,

Star numbers and dependences,

A - the difference between independent determination of the coordinates -

$\Delta \delta \cos \delta$ in arc seconds,

B - the difference between independent determination of the coordinates -

$\Delta \delta$ in arc seconds.

N	Catalogue	Star numbers and dependences			A	B
1	SAO 2	98252 .42493	98289 .35626	98335 .21881		
		98239 .44545	98314 .41858	98328 .13597	0.0	1.1

N	Catalogue	Star numbers and dependences						A	B																																																																																																																																																																																																																																																							
2	SAO 2	98252 .43339	98289 .36163	98335 .20498			0.1	0.9																																																																																																																																																																																																																																																								
		98239 .45530	98314 .42301	98328 .12169					3	SAO 2	98009 .51411	80328 .29546	98109 .19043			0.5	0.8	98003 .28131	80349 .58808	98100 .13061			4	SAO 2	98009 .51614	80328 .30481	98109 .17905			0.1	0.2	98003 .28740	80349 .59451	98100 .11808			5	SAO 2	78500 .64470	95852 .17124	78626 .18406			0.7	0.3	78495 .69881	95890 .09862	78626 .20258			6	SAO 2	78500 .64723	95852 .17078	78626 .18200			0.4	0.1	78495 .70137	95890 .09785	78626 .20078			7	SAO 2	93552 .46401	93574 .31781	93579 .21818			0.1	0.2	93552 .55282	93559 .08336	93587 .36382			8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1	93552 .55698	93559 .09232	93587 .35071			9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233
3	SAO 2	98009 .51411	80328 .29546	98109 .19043			0.5	0.8																																																																																																																																																																																																																																																								
		98003 .28131	80349 .58808	98100 .13061					4	SAO 2	98009 .51614	80328 .30481	98109 .17905			0.1	0.2	98003 .28740	80349 .59451	98100 .11808			5	SAO 2	78500 .64470	95852 .17124	78626 .18406			0.7	0.3	78495 .69881	95890 .09862	78626 .20258			6	SAO 2	78500 .64723	95852 .17078	78626 .18200			0.4	0.1	78495 .70137	95890 .09785	78626 .20078			7	SAO 2	93552 .46401	93574 .31781	93579 .21818			0.1	0.2	93552 .55282	93559 .08336	93587 .36382			8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1	93552 .55698	93559 .09232	93587 .35071			9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271												
4	SAO 2	98009 .51614	80328 .30481	98109 .17905			0.1	0.2																																																																																																																																																																																																																																																								
		98003 .28740	80349 .59451	98100 .11808					5	SAO 2	78500 .64470	95852 .17124	78626 .18406			0.7	0.3	78495 .69881	95890 .09862	78626 .20258			6	SAO 2	78500 .64723	95852 .17078	78626 .18200			0.4	0.1	78495 .70137	95890 .09785	78626 .20078			7	SAO 2	93552 .46401	93574 .31781	93579 .21818			0.1	0.2	93552 .55282	93559 .08336	93587 .36382			8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1	93552 .55698	93559 .09232	93587 .35071			9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																										
5	SAO 2	78500 .64470	95852 .17124	78626 .18406			0.7	0.3																																																																																																																																																																																																																																																								
		78495 .69881	95890 .09862	78626 .20258					6	SAO 2	78500 .64723	95852 .17078	78626 .18200			0.4	0.1	78495 .70137	95890 .09785	78626 .20078			7	SAO 2	93552 .46401	93574 .31781	93579 .21818			0.1	0.2	93552 .55282	93559 .08336	93587 .36382			8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1	93552 .55698	93559 .09232	93587 .35071			9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																								
6	SAO 2	78500 .64723	95852 .17078	78626 .18200			0.4	0.1																																																																																																																																																																																																																																																								
		78495 .70137	95890 .09785	78626 .20078					7	SAO 2	93552 .46401	93574 .31781	93579 .21818			0.1	0.2	93552 .55282	93559 .08336	93587 .36382			8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1	93552 .55698	93559 .09232	93587 .35071			9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																						
7	SAO 2	93552 .46401	93574 .31781	93579 .21818			0.1	0.2																																																																																																																																																																																																																																																								
		93552 .55282	93559 .08336	93587 .36382					8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1	93552 .55698	93559 .09232	93587 .35071			9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																				
8	SAO 2	93552 .47911	93574 .31594	93579 .20495			0.3	0.1																																																																																																																																																																																																																																																								
		93552 .55698	93559 .09232	93587 .35071					9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4	146530 .35629	146539 .36791	146591 .27580			10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																		
9	SAO 2	146522 .22911	146539 .30959	146569 .46130			0.1	0.4																																																																																																																																																																																																																																																								
		146530 .35629	146539 .36791	146591 .27580					10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6	146530 .35715	146539 .37101	146591 .27184			11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																
10	SAO 2	146522 .23168	146539 .31184	146569 .45648			0.1	0.6																																																																																																																																																																																																																																																								
		146530 .35715	146539 .37101	146591 .27184					11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4	128927 .09627	128939 .61628	128966 .28745			12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																														
11	SAO 2	128939 .67686	128958 .14405	128963 .17909			0.6	0.4																																																																																																																																																																																																																																																								
		128927 .09627	128939 .61628	128966 .28745					12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6	128927 .10419	128939 .61254	128966 .28328			13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																												
12	SAO 2	128939 .68542	128958 .15056	128963 .16402			0.3	0.6																																																																																																																																																																																																																																																								
		128927 .10419	128939 .61254	128966 .28328					13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3	80498 .18257	80556 .62464	80596 .19280			14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																										
13	SAO 2	80494 .18521	80556 .60040	80597 .21439			0.1	0.3																																																																																																																																																																																																																																																								
		80498 .18257	80556 .62464	80596 .19280					14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0	80498 .19767	80556 .60896	80596 .19338			15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																								
14	SAO 2	80494 .19106	80556 .60486	80597 .20408			0.1	0.0																																																																																																																																																																																																																																																								
		80498 .19767	80556 .60896	80596 .19338					15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0	78953 .34077	96382 .42384	79080 .23539			16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																						
15	SAO 2	78904 .28924	96404 .43080	79061 .27997			1.2	1.0																																																																																																																																																																																																																																																								
		78953 .34077	96382 .42384	79080 .23539					16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0	78953 .34375	96382 .42351	79080 .23274			17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																																				
16	SAO 2	78904 .29267	96404 .42827	79061 .27906			1.0	1.0																																																																																																																																																																																																																																																								
		78953 .34375	96382 .42351	79080 .23274					17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7	110769 .43675	110801 .43567	110821 .12758			18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																																																		
17	SAO 2	110739 .40228	110821 .26304	110822 .33467			0.2	0.7																																																																																																																																																																																																																																																								
		110769 .43675	110801 .43567	110821 .12758					18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6	110769 .44904	110801 .43036	110821 .12060			19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																																																																
18	SAO 2	110739 .40910	110821 .26791	110822 .32299			0.3	0.6																																																																																																																																																																																																																																																								
		110769 .44904	110801 .43036	110821 .12060					19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7	92896 .37948	110491 .26294	92942 .35758			20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																																																																														
19	SAO 2	110485 .35427	92914 .29427	92922 .35147			0.2	0.7																																																																																																																																																																																																																																																								
		92896 .37948	110491 .26294	92942 .35758					20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4	92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																																																																																												
20	SAO 2	110485 .37313	92914 .30264	92922 .32422			0.5	0.4																																																																																																																																																																																																																																																								
		92895 .39233	110491 .26497	92942 .34271																																																																																																																																																																																																																																																												

N	Catalogue	Star numbers and dependences						A	B
21	SAO 2	92892 .33481	110491 .39340	92914 .27179			0.8	0.1	
		92892 .41356	110485 .32671	92922 .25973					
22	SAO 2	92892 .36418	110491 .38847	92914 .24735			0.4	0.0	
		92892 .42182	110485 .33928	92922 .23890					
23	SAO 2	80891 .33424	80901 .36611	80944 .29965			0.8	0.8	
		80844 .33455	80929 .36569	80947 .29976					
24	SAO 2	80891 .33755	80901 .37317	80944 .28928			2.1	1.3	
		80844 .34002	80929 .36577	80947 .29421					
25	SAO 3	165371 .22586	165385 .65881	165411 .11533			0.2	1.1	
		165372 .60706	165405 .17077	165411 .22217					
26	SAO 3	165371 .23863	165385 .65227	165411 .10911			0.7	0.6	
		165372 .61660	165405 .16335	165411 .22005					
27	SAO 2	91711 .33742	91723 .14536	91769 .51722			0.1	0.1	
		91711 .29526	91721 .32183	91777 .38292					
28	SAO 2	91711 .34419	91723 .14524	91769 .51057			1.0	0.1	
		91711 .30306	91721 .31897	91777 .37797					
29	SAO 2	110071 .52056	110106 .44607	110128 .03337			1.2	0.5	
		110060 .27541	110091 .52733	110106 .19726					
30	SAO 2	110071 .52173	110106 .45398	110128 .02429			0.2	0.8	
		110060 .28803	110091 .51209	110106 .19988					
31	SAO 2	80896 .14623	80946 .54888	80950 .30490			0.2	0.8	
		80905 .35619	80933 .33445	80984 .30936					
32	SAO 2	80896 .15368	80946 .54908	80950 .29724			0.5	0.4	
		80905 .35811	80933 .33941	80984 .30248					
33	SAO 2	110093 .41560	110123 .37867	110141 .20573			0.3	0.5	
		110095 .23461	110104 .24234	110127 .52305					
34	SAO 2	110093 .42257	110123 .37488	110141 .20254			0.2	0.5	
		110095 .23570	110104 .25036	110127 .51395					
35	SAO 2	80342 .23768	80370 .16017	80414 .60215			0.2	0.5	
		80342 .12277	80384 .54432	80419 .33291					
36	SAO 2	80342 .24134	80370 .16963	80414 .58903			0.4	0.1	
		80342 .12993	80384 .54915	80419 .32093					
37	SAO 3	146527 .43420	146559 .27884	146592 .28696			0.1	1.1	
		146583 .42750	146550 .32678	146592 .24572					
38	SAO 3	146527 .43949	146559 .27538	146592 .28513			0.3	1.2	
		146538 .42752	146550 .33271	146592 .23977					
39	SAO 2	98121 .26548	98147 .29053	98201 .44399			0.3	0.7	
		98110 .26112	98185 .39628	98195 .34260					

N	Catalogue	Star numbers and dependences						A	B
40	SAO 2	98121 .27050	98147 .30332	98201 .42618					
		98110 .27356	98185 .39461	98195 .33183	0.0	0.8			
41	SAO 3	165274 .30798	165276 .49064	165320 .20138					
		165257 .22000	165281 .64908	165330 .13092	0.2	0.4			
42	SAO 3	165274 .31201	165276 .49349	165320 .19450					
		165257 .22251	165281 .65169	165330 .12579	0.0	0.5			
43	SAO 3	165306 .27923	165333 .35804	165341 .36272					
		191398 .20832	165312 .18781	165345 .60387	0.1	0.7			
44	SAO 3	165306 .29017	165333 .34740	165341 .36243					
		191398 .21226	165312 .19074	165345 .59700	0.3	0.0			
45	SAO 2	98697 .44553	98735 .25422	98765 .30026					
		98700 .20705	98734 .31548	98735 .47747	0.4	0.9			
46	SAO 2	98697 .44597	98735 .26419	98765 .28984					
		98700 .21673	98734 .30105	98735 .48223	0.5	0.8			
47	SAO 2	98252 .36433	98289 .23832	98333 .39735					
		98239 .33041	98314 .44261	98328 .22698	0.1	0.7			
48	SAO 2	98252 .37193	98289 .24607	98335 .38199					
		98239 .34090	98314 .44450	98328 .21460	0.1	0.7			
49	SAO 2	79879 .28910	79890 .51662	79956 .19428					
		79878 .05971	79890 .56480	79918 .37549	0.2	0.3			
50	SAC 2	79879 .29364	79890 .52077	79956 .18558					
		79878 .07897	79890 .55998	79918 .36104	0.3	0.1			
51	SAO 2	98708 .38050	98717 .40533	98785 .21418					
		98713 .24828	98728 .23773	98736 .51398	0.5	0.5			
52	SAO 2	98708 .38328	98717 .40928	98785 .20744					
		98713 .27444	98728 .22629	98736 .49927	0.2	1.3			
53	SAO 2	78716 .36559	78801 .37035	78884 .26407					
		78725 .19844	78801 .40672	78810 .39485	1.3	1.3			
54	SAO 2	78716 .36774	78801 .37028	78884 .26199					
		78725 .20302	78801 .40299	78810 .39399	1.2	0.7			
55	SAO 2	98723 .16306	98756 .68441	98784 .15254					
		98708 .17472	98746 .40530	98784 .41997	0.2	0.7			
56	SAO 2	98723 .17265	98756 .67479	98784 .15256					
		98708 .18519	98746 .39359	98784 .42122	0.0	0.8			
57	SAO 2	92863 .37470	92886 .35614	92900 .26916					
		92855 .21035	92886 .39868	92888 .39097	1.0	0.6			
58	SAO 2	92863 .37979	92886 .36553	92900 .25467					
		92855 .22294	92886 .38856	92888 .38851	1.3	1.3			

N	Catalogue	Star numbers and dependences						A	B																																																																																																																																																																																																																																																							
59	SAO 2	117367 .35855	98327 .27942	117430 .36203			0.1	0.6																																																																																																																																																																																																																																																								
		117300 .16299	117404 .46572	98370 .37129					60	SAO 2	117367 .37231	98327 .28295	117430 .34474			0.1	1.4	117300 .17206	117404 .45944	98370 .36850			61	SAO 2	98611 .58449	98644 .31102	98645 .10449			0.1	0.9	98611 .41874	98625 .37296	98658 .20831			62	SAO 2	98611 .59791	98644 .30796	98645 .09413			0.1	0.5	98611 .43354	98625 .36688	98658 .19959			63	SAO 3	146765 .31710	146814 .27707	146845 .40582			0.4	0.3	146776 .15654	146814 .61710	146825 .22636			64	SAO 3	146765 .31977	146814 .28008	146845 .40015			0.1	0.1	146776 .16175	146814 .61871	146825 .21953			65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5	117058 .39469	117118 .36206	117136 .24325			66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927
60	SAO 2	117367 .37231	98327 .28295	117430 .34474			0.1	1.4																																																																																																																																																																																																																																																								
		117300 .17206	117404 .45944	98370 .36850					61	SAO 2	98611 .58449	98644 .31102	98645 .10449			0.1	0.9	98611 .41874	98625 .37296	98658 .20831			62	SAO 2	98611 .59791	98644 .30796	98645 .09413			0.1	0.5	98611 .43354	98625 .36688	98658 .19959			63	SAO 3	146765 .31710	146814 .27707	146845 .40582			0.4	0.3	146776 .15654	146814 .61710	146825 .22636			64	SAO 3	146765 .31977	146814 .28008	146845 .40015			0.1	0.1	146776 .16175	146814 .61871	146825 .21953			65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5	117058 .39469	117118 .36206	117136 .24325			66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391												
61	SAO 2	98611 .58449	98644 .31102	98645 .10449			0.1	0.9																																																																																																																																																																																																																																																								
		98611 .41874	98625 .37296	98658 .20831					62	SAO 2	98611 .59791	98644 .30796	98645 .09413			0.1	0.5	98611 .43354	98625 .36688	98658 .19959			63	SAO 3	146765 .31710	146814 .27707	146845 .40582			0.4	0.3	146776 .15654	146814 .61710	146825 .22636			64	SAO 3	146765 .31977	146814 .28008	146845 .40015			0.1	0.1	146776 .16175	146814 .61871	146825 .21953			65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5	117058 .39469	117118 .36206	117136 .24325			66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																										
62	SAO 2	98611 .59791	98644 .30796	98645 .09413			0.1	0.5																																																																																																																																																																																																																																																								
		98611 .43354	98625 .36688	98658 .19959					63	SAO 3	146765 .31710	146814 .27707	146845 .40582			0.4	0.3	146776 .15654	146814 .61710	146825 .22636			64	SAO 3	146765 .31977	146814 .28008	146845 .40015			0.1	0.1	146776 .16175	146814 .61871	146825 .21953			65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5	117058 .39469	117118 .36206	117136 .24325			66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																								
63	SAO 3	146765 .31710	146814 .27707	146845 .40582			0.4	0.3																																																																																																																																																																																																																																																								
		146776 .15654	146814 .61710	146825 .22636					64	SAO 3	146765 .31977	146814 .28008	146845 .40015			0.1	0.1	146776 .16175	146814 .61871	146825 .21953			65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5	117058 .39469	117118 .36206	117136 .24325			66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																						
64	SAO 3	146765 .31977	146814 .28008	146845 .40015			0.1	0.1																																																																																																																																																																																																																																																								
		146776 .16175	146814 .61871	146825 .21953					65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5	117058 .39469	117118 .36206	117136 .24325			66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																				
65	SAO 2	117057 .19495	117092 .46576	117136 .33929			0.6	0.5																																																																																																																																																																																																																																																								
		117058 .39469	117118 .36206	117136 .24325					66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3	117058 .41032	117118 .35087	117136 .23882			67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																		
66	SAO 2	117057 .21167	117092 .45991	117136 .32842			0.9	0.3																																																																																																																																																																																																																																																								
		117058 .41032	117118 .35087	117136 .23882					67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6	110458 .34532	110480 .47392	110529 .18076			68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																
67	SAO 2	110475 .48252	110480 .37052	110511 .14696			0.3	0.6																																																																																																																																																																																																																																																								
		110458 .34532	110480 .47392	110529 .18076					68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9	110458 .35083	110480 .47786	110529 .17131			69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																														
68	SAO 2	110475 .48927	110480 .37993	110511 .13080			0.2	0.9																																																																																																																																																																																																																																																								
		110458 .35083	110480 .47786	110529 .17131					69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6	163239 .58229	163244 .18164	163280 .23607			70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																												
69	SAO 3	163211 .29970	163264 .42480	163272 .27550			0.3	0.6																																																																																																																																																																																																																																																								
		163239 .58229	163244 .18164	163280 .23607					70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7	163239 .59140	163244 .18668	163280 .22191			71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																										
70	SAO 3	163211 .31077	163264 .41691	163272 .27232			0.5	0.7																																																																																																																																																																																																																																																								
		163239 .59140	163244 .18668	163280 .22191					71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8	110515 .36447	92973 .35900	110566 .27653			72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																								
71	SAO 2	110516 .41293	110566 .31659	110574 .27048			1.0	1.8																																																																																																																																																																																																																																																								
		110515 .36447	92973 .35900	110566 .27653					72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3	110515 .37573	92973 .35505	110566 .26922			73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																						
72	SAO 2	110516 .42372	110566 .31464	110574 .26164			1.1	1.3																																																																																																																																																																																																																																																								
		110515 .37573	92973 .35505	110566 .26922					73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2	97991 .33238	98000 .47602	98095 .19160			74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																																				
73	SAO 2	97967 .50149	98056 .35126	98095 .14725			0.3	1.2																																																																																																																																																																																																																																																								
		97991 .33238	98000 .47602	98095 .19160					74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5	97991 .34205	98000 .47681	98095 .18114			75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																																																		
74	SAO 2	97967 .51106	98056 .34837	98095 .14057			0.5	1.5																																																																																																																																																																																																																																																								
		97991 .34205	98000 .47681	98095 .18114					75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0	164938 .46220	164973 .31706	164974 .22074			76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																																																																
75	SAO 3	164945 .49402	164957 .29756	164986 .20842			0.2	0.0																																																																																																																																																																																																																																																								
		164938 .46220	164973 .31706	164974 .22074					76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6	164938 .47986	164973 .30641	164974 .21373			77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																																																																														
76	SAO 3	164945 .49522	164957 .31831	164986 .18647			0.3	0.6																																																																																																																																																																																																																																																								
		164938 .47986	164973 .30641	164974 .21373					77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1	92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																																																																																												
77	SAO 2	92864 .12374	92891 .47807	92897 .39819			0.5	0.1																																																																																																																																																																																																																																																								
		92868 .17927	92891 .33682	92897 .48391																																																																																																																																																																																																																																																												

N	Catalogue	Star numbers and dependences						A	B
78	SAO 2	92864 .13915	92891 .47026	92897 .39060					
		92868 .20130	92891 .31179	92897 .48691	0.2	0.1			
79	SAO 3	146777 .24140	146814 .34178	146829 .41681					
		146789 .30097	146808 .48881	146846 .21022	0.2	0.5			
80	SAO 3	146777 .24825	146814 .34046	146829 .41130					
		146789 .30339	146808 .49503	146846 .20159	0.2	0.4			
81	SAO 3	165017 .36549	165019 .44073	165039 .19378					
		165006 .49581	165031 .19230	165039 .31189	0.8	0.5			
82	SAO 3	165017 .39485	165019 .42752	165039 .17763					
		165006 .51103	165031 .18148	165039 .30750	1.8	1.0			
83	SAO 2	76095 .21132	76139 .27342	76208 .51526					
		76139 .47709	76146 .29297	76239 .22994	0.6	0.2			
84	SAO 2	76095 .21544	76139 .27650	76208 .50806					
		76139 .48033	76146 .29654	76239 .22313	0.3	0.6			
85	SAO 2	110645 .27065	110666 .39096	110718 .33839					
		110666 .42971	110669 .31221	110708 .25809	0.3	1.2			
86	SAO 2	110645 .27028	110666 .40384	110718 .32588					
		110666 .44130	110669 .31732	110708 .24137	0.2	1.2			
87	SAO 3	146776 .03181	146814 .30002	146825 .66817					
		146765 .26015	146837 .22271	146845 .51713	0.7	0.5			
88	SAO 3	146776 .03798	146814 .30146	146825 .66056					
		146765 .26475	146837 .22086	146845 .51440	0.1	0.5			
89	SAO 2	78555 .41954	78622 .26576	78634 .31469					
		78573 .59009	78605 .31332	78680 .09658	1.2	0.3			
90	SAO 2	78555 .42305	78622 .26629	78634 .31066					
		78573 .59327	78605 .31229	78680 .09445	1.6	0.1			
91	SAO 3	145606 .46148	145652 .24185	145683 .29667					
		145610 .28604	145649 .37269	145652 .34126	1.4	1.0			
92	SAO 3	145606 .47326	145652 .23362	145683 .29312					
		145610 .30094	145649 .37123	145652 .32783	0.6	1.0			
93	SAO 2	97550 .58000	97590 .21420	97648 .20580					
		97552 .72236	97590 .02269	97657 .25495	0.7	0.6			
94	SAO 2	97550 .58543	97590 .21910	97648 .19546					
		97552 .73072	97590 .02143	97657 .24785	1.3	0.4			
95	SAO 2	75166 .32528	75192 .29484	75214 .37988					
		75176 .29292	75182 .35153	75214 .35554	0.3	0.2			
96	SAO 2	75166 .33560	75192 .29539	75214 .36900					
		75176 .29709	75182 .36258	75214 .34032	0.3	0.3			

N	Catalogue	Star numbers and dependences					A	B
97	SAO 2	74897 .27456	74938 .20217	74989 .52327				
		74897 .25571	74911 .28935	75006 .45494	0.3	1.4		
98	SAO 2	74897 .27998	74938 .20617	74989 .51386				
		74897 .25656	74911 .29519	75006 .44825	0.3	1.7		
99	SAO 2	93123 .09231	93134 .31265	93182 .59504				
		93132 .16762	93150 .38797	93182 .44441	0.3	0.7		
100	SAO 2	93123 .08832	93134 .32934	93182 .58234				
		93132 .16856	93150 .40391	93182 .42753	0.1	0.2		
101	SAO 2	92125 .15325	92138 .32294	92169 .52382				
		92138 .38934	92151 .38946	92173 .22120	0.6	0.0		
102	SAO 2	92125 .15683	92138 .32598	92169 .51719				
		92138 .39572	92151 .39111	92173 .21317	0.2	0.6		
103	SAO 2	110698 .42389	93091 .33138	110737 .24473				
		110698 .48447	93088 .23372	110745 .28181	0.0	0.2		
104	SAO 2	110698 .44115	93091 .32281	110737 .23605				
		110698 .49977	93088 .22769	110745 .27254	0.4	0.0		
105	SAO 3	164996 .25310	165007 .50725	165044 .23965				
		165007 .49214	165015 .42188	165056 .08598	1.0	0.5		
106	SAO 3	164996 .27059	165007 .49789	165044 .23153				
		165007 .49751	165015 .42963	165056 .07286	0.9	0.2		
107	SAO 2	97550 .46395	97617 .37191	97657 .16414				
		97535 .41666	97610 .27974	97657 .30360	0.6	0.4		
108	SAO 2	97550 .47268	97617 .37003	97657 .15729				
		97535 .42734	97610 .26925	97657 .30342	0.6	0.0		
109	SAO 2	75058 .26139	75063 .38253	75099 .35608				
		75055 .35505	75058 .33196	75110 .31299	0.4	0.8		
110	SAO 2	75058 .26327	75063 .39483	75099 .34190				
		75055 .35863	75058 .33868	75110 .30269	0.3	1.1		
111	SAO 2	74817 .25788	74831 .34110	74856 .40102				
		74797 .19291	74831 .53304	74879 .27405	0.7	0.1		
112	SAO 2	74817 .27197	74831 .34597	74836 .38206				
		74797 .20092	74831 .53064	74879 .26844	0.9	0.3		
113	SAO 2	98543 .19824	98568 .33956	98611 .46219				
		98514 .23537	98568 .07806	98610 .68656	1.1	1.5		
114	SAO 2	98543 .20303	98568 .34275	98611 .45422				
		98514 .23922	98568 .07974	98610 .68104	0.8	0.8		
115	SAO 3	128916 .36145	128941 .44996	128970 .18859				
		128922 .29148	128939 .32654	128953 .38198	0.1	0.6		

N	Catalogue	Star numbers and dependences				A	B
116	SAO 3	128916 .36577	128941 .44795	128970 .18628			
		128922 .29844	128939 .32719	128953 .37437	0.2	1.0	
117	SAO 2	98263 .17480	98345 .38141	98373 .44379			
		98277 .30264	98283 .15386	98393 .54350	1.3	0.6	
118	SAO 2	98263 .18340	98345 .37698	98373 .43962			
		98277 .30832	98283 .15512	98393 .53656	1.3	0.9	
119	SAO 2	117270 .57916	117319 .18747	117391 .23338			
		117262 .14705	117284 .59954	117391 .25340	0.9	0.7	
120	SAO 2	117270 .58759	117319 .18837	117391 .22404			
		117262 .14803	117284 .60852	117391 .24345	1.5	0.4	
121	SAO 2	116958 .40636	116993 .16428	117015 .42936			
		116943 .19795	116980 .46417	117026 .33789	1.2	0.2	
122	SAO 2	116958 .41892	116993 .17093	117015 .41015			
		116943 .21179	116980 .45976	117026 .32845	1.2	0.3	
123	SAO 2	80988 .25165	98797 .41490	81044 .33345			
		81009 .46237	98797 .46110	81080 .07653	0.1	0.2	
124	SAO 2	80988 .25925	98797 .40955	81044 .33120			
		81009 .47182	98797 .45527	81080 .07291	0.3	0.2	
125	SAO 2	78500 .56716	95852 .32487	78626 .10798			
		78495 .64106	95890 .27584	78626 .08310	0.6	0.2	
126	SAO 2	78500 .57454	95852 .31484	78626 .11063			
		78495 .64734	95890 .26405	78626 .08861	0.3	0.3	
127	SAO 3	162882 .76659	162914 .12005	162938 .11335			
		162885 .64367	162893 .24647	162939 .10987	0.0	0.8	
128	SAO 3	162882 .77791	162914 .11920	162938 .10289			
		162885 .64515	162893 .25730	162939 .09755	0.4	1.1	
129	SAO 2	79555 .30267	79631 .33964	79643 .35770			
		79578 .34877	79612 .42978	79664 .22145	1.1	0.8	
130	SAO 2	79555 .30831	79631 .33687	79643 .35482			
		79578 .35435	79612 .42969	79664 .21596	1.4	0.9	
131	SAO 3	165021 .23887	165030 .34770	165070 .41342			
		165018 .25970	165054 .44532	165056 .29498	0.5	0.8	
132	SAO 3	165021 .25333	165030 .34036	165070 .40631			
		165018 .27140	165054 .42965	165056 .29895	0.5	0.5	
133	SAO 2	75957 .10563	75981 .62335	75983 .27102			
		75939 .34698	75983 .18708	76003 .46594	0.3	0.2	
134	SAO 2	75957 .12355	75981 .60717	75983 .26927			
		75939 .34962	75983 .19082	76003 .45957	0.2	0.2	

N	Catalogue	Star numbers and dependences				A	B
135	SAO 2	75759 .46829	75765 .15829	75800 .37342			
		75751 .38949	75779 .19822	75800 .41229	0.5	0.2	
136	SAO 2	75759 .47355	75765 .16297	75800 .36348			
		75751 .39662	75779 .19836	75800 .40502	0.4	0.1	
137	SAO 2	93598 .62516	93607 .07553	93643 .29930			
		93579 .17779	93607 .18977	93629 .63243	0.0	0.0	
138	SAO 2	93598 .62546	93607 .08675	93643 .28779			
		93579 .18280	93607 .19945	93629 .61774	0.6	0.4	
139	SAO 2	79879 .42270	79890 .35758	79956 .21972			
		79878 .18788	79890 .37412	79918 .43799	1.2	0.3	
140	SAO 3	145574 .27406	145606 .38565	145644 .34030			
		145580 .23579	145606 .48762	145644 .27659	0.1	0.0	
141	SAO 3	145574 .28876	145606 .37596	145644 .33527			
		145580 .24848	145606 .48344	145644 .26808	0.2	0.1	
142	SAO 2	110035 .58590	110050 .17758	110093 .23652			
		110035 .60281	110073 .14273	110086 .25445	0.3	0.1	
143	SAO 2	110035 .59397	110050 .17830	110093 .22773			
		110035 .61239	110073 .14503	110086 .24258	0.1	0.3	
144	SAO 2	92993 .29573	93012 .23827	93016 .46600			
		92999 .32793	93012 .33046	93015 .34161	0.6	0.4	
145	SAO 2	92993 .30873	93012 .24737	93016 .44391			
		92999 .34834	93012 .33746	93015 .31419	0.1	0.2	
146	SAO 2	92837 .25795	92843 .57403	92882 .16802			
		92812 .40424	92854 .30100	92880 .29477	0.2	0.9	
147	SAO 2	92837 .25302	92843 .58962	92882 .15736			
		92812 .41177	92854 .29939	92880 .28884	0.5	0.3	
148	SAO 2	75058 .12996	75125 .41009	75127 .45995			
		75110 .34199	75113 .17703	75122 .48098	0.6	1.0	
149	SAO 2	75058 .13778	75125 .40676	75127 .45546			
		75110 .37544	75113 .18573	75122 .43883	0.3	1.2	
150	SAO 2	74854 .35730	74885 .33570	74901 .30700			
		74856 .33969	74871 .27444	74901 .38587	0.5	1.2	
151	SAO 2	74854 .36829	74885 .33273	74901 .29899			
		74856 .34198	74871 .28728	74901 .37074	0.3	0.8	
152	SAO 1	55595 .29589	55647 .26602	55655 .43809			
		55597 .23559	55630 .43547	55662 .32894	2.0	0.1	
153	SAO 1	55595 .28889	55647 .26954	55655 .44158			
		55597 .22596	55630 .44361	55662 .33043	2.3	0.2	

N	Catalogue	Star numbers and dependences						A	B
154	SAO 1	55731 .06678	55757 .58512	55787 .34809					
		55728 .51890	55794 .28766	55799 .19343	0.1	0.5			
155	SAO 1	55874 .25805	55881 .46408	55923 .27788					
		55856 .35619	55893 .48809	55963 .15572	0.8	0.3			
156	SAO 1	55874 .25419	55881 .45578	55923 .29002					
		55856 .34970	55893 .48991	55963 .16039	0.8	0.0			
157	SAO 1	56636 .46783	56656 .20436	56720 .32781					
		56648 .30125	56660 .45308	56713 .24567	0.0	0.5			
158	SAO 1	56636 .46443	56656 .18992	56720 .34565					
		56648 .28762	56660 .44652	56713 .26585	0.5	0.0			
159	SAO 1	56784 .30095	56789 .43923	56839 .25981					
		56748 .30115	56812 .38525	56823 .31359	0.2	0.8			
160	SAO 1	56784 .31326	56789 .40164	56839 .26510					
		56748 .27555	56812 .40661	56823 .31784	0.3	0.7			
161	SAO 2	75496 .14286	75546 .37677	75575 .48037					
		75523 .14425	75549 .58431	75577 .27144	1.0	1.2			
162	SAO 2	75496 .15070	75546 .37317	75575 .47612					
		75523 .15476	75549 .58129	75577 .26395	0.8	0.6			
163	SAO 2	75278 .42289	75292 .31994	75311 .25717					
		75283 .56078	75290 .20115	75317 .23807	0.3	0.3			
164	SAO 2	75278 .43323	75292 .31386	75311 .25291					
		75283 .56555	75290 .20520	75317 .22926	0.3	0.5			
165	SAO 2	110855 .23818	110886 .29934	110907 .46248					
		110855 .23596	110891 .35955	110906 .40448	0.3	0.1			
166	SAO 2	110855 .24947	110886 .29441	110907 .45612					
		110855 .24695	110891 .35458	110906 .39847	0.1	0.4			
167	SAO 2	110612 .28915	110654 .32442	110659 .38643					
		110618 .15943	110637 .35392	110659 .48665	0.1	0.2			
168	SAO 2	110612 .29378	110654 .32400	110659 .38223					
		110618 .16356	110637 .35621	110659 .48023	0.1	0.2			
169	SAO 2	75113 .30453	75144 .35271	75166 .34276					
		75090 .20441	75147 .19089	75159 .60470	0.7	1.2			
170	SAO 2	75113 .30900	75144 .35752	75166 .33349					
		75090 .21037	75147 .18788	75159 .60176	1.0	1.0			
171	SAO 2	91892 .32092	91909 .59941	74020 .07967					
		91878 .17212	73988 .20630	91913 .62157	0.3	0.6			
172	SAO 2	91892 .33775	91909 .58914	74020 .07311					
		91878 .17786	73988 .21028	91913 .61186	1.7	0.8			

N	Catalogue	Star numbers and dependences						A	B
173	SAO 2	110707 .43130	110738 .16362	110767 .40508			0.8	0.6	
		110691 .21235	110738 .48948	110740 .29817					
174	SAO 2	110707 .43688	110738 .16360	110767 .39952			0.3	0.4	
		110691 .21745	110738 .48733	110740 .29522					
175	SAO 3	165309 .31392	165324 .44603	165348 .24006			0.7	0.7	
		165295 .40632	165336 .42314	165356 .17054					
176	SAO 3	165309 .31921	165324 .45102	165348 .22977			0.8	0.9	
		165295 .41266	165336 .42113	165356 .16621					
177	SAO 2	117270 .26306	117319 .34953	117391 .38741			0.7	0.2	
		117262 .24240	117284 .24301	117391 .51459					
178	SAO 2	117270 .26957	117319 .35310	117391 .37732			1.0	0.3	
		117262 .24504	117284 .24962	117391 .50534					
179	SAO 3	128881 .14843	128900 .54855	128927 .30302			0.4	0.9	
		128897 .45891	128905 .35366	128934 .18742					
180	SAO 3	128881 .15122	128900 .55340	128927 .29538			0.2	1.4	
		128897 .46984	128905 .34757	128934 .18259					

4. LIST OF COLLABORATORS

Name	Abbreviation	Exposures	Measurements	Reductions
M. Antal	A	5	5	-
G. Červák	G	-	2	-
Š. Dendis	D	-	-	2
L. Kornoš	N	-	2	4
L. Petrik	L	171	164	-
E. M. Pittich	P	-	-	167
J. Svoreň	S	4	7	7

REFERENCES

- Antal, M.: 1973, *Contr. Astron. Obs. Skalnaté Pleso* 5, 101.
Pittich, E. M., Svoreň, J.: 1985, *Contr. Astron. Obs. Skalnaté Pleso* 13, in press.