

Astrometry of minor planets made at the Skalnaté Pleso Observatory in the year 2002

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Received: May 26, 2003

Abstract. The paper presents the results of position determinations of minor planets carried out at the Skalnaté Pleso Observatory in the year 2002. 109 CCD observations of 21 minor planets are given together with the list of reference stars.

Key words: astrometry – asteroids

1. Introduction

The presented paper is a continuation of the previous papers which gave the results of positional CCD observations of minor planets obtained at the Skalnaté Pleso Observatory (the last paper of this series: Neslušan, 2003) and contains the observations made in the year 2002.

The reference stars were selected from the USNO-A2.0 Star Catalog (Monet et al., 1998).

The reduction was made using the method of plate constants within computer program *Astrometrica* (Raab, 1993).

A total of 109 accurate positions of 21 minor planets are given. A list of reference stars and a list of collaborators are included, too. The list of collaborators informs about their share in exposing, 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 table contain the following:

N – serial number of observation,

MP – number of minor planet (if unnumbered, yet, the preliminary designation is given in parentheses),

Date U.T. – date and time of the middle of the exposure,

$R.A._{2000}$ – right ascension for equinox 2000.0 (in h,m,s),

$Decl._{2000}$ – declination for equinox 2000.0 (in $^{\circ},',''$),

$d\alpha$ – the mean residual in R.A. in arc seconds,

$d\delta$ – the mean residual in Decl. in arc seconds.

N	MP	Date U.T.	<i>R.A.</i> ₂₀₀₀	<i>Decl.</i> ₂₀₀₀	d α	d δ
1	587	2002 Jan.	15.69789	03 30 46.96	+52 57 21.8	0.3 0.3
2	587	2002 Jan.	15.71037	03 30 47.26	+52 57 09.3	0.3 0.3
3	587	2002 Feb.	4.78446	03 48 45.98	+47 40 16.4	0.2 0.2
4	587	2002 Feb.	4.79354	03 48 46.66	+47 40 08.7	0.1 0.2
5	1362	2002 Jan.	9.92541	11 09 13.37	+20 37 26.3	0.1 0.1
6	1362	2002 Jan.	9.93921	11 09 13.25	+20 37 33.2	0.2 0.1
7	1362	2002 Feb.	3.83784	10 59 38.10	+24 26 49.6	0.2 0.3
8	1362	2002 Feb.	3.84789	10 59 37.74	+24 26 55.8	0.2 0.3
9	1362	2002 Apr.	3.91981	10 19 51.97	+30 05 51.7	0.3 0.3
10	1362	2002 Apr.	3.93880	10 19 51.54	+30 05 52.1	0.2 0.3
11	1362	2002 May	1.84806	10 16 38.06	+29 28 26.2	0.3 0.2
12	1362	2002 May	1.86446	10 16 38.19	+29 28 22.4	0.2 0.3
13	1620	2002 Jan.	3.68471	00 40 00.13	+23 43 30.5	0.2 0.1
14	1620	2002 Jan.	3.69240	00 40 00.92	+23 43 31.8	0.2 0.1
15	1620	2002 Jan.	3.69979	00 40 01.66	+23 43 32.5	0.2 0.1
16	1620	2002 Jan.	4.68625	00 41 44.55	+23 45 34.0	0.1 0.3
17	1620	2002 Jan.	4.69876	00 41 45.81	+23 45 36.0	0.1 0.2
18	1620	2002 Jan.	7.73189	00 47 06.97	+23 52 44.6	0.2 0.3
19	1620	2002 Jan.	7.77553	00 47 11.61	+23 52 50.8	0.3 0.3
20	1620	2002 Jan.	8.70056	00 48 51.10	+23 55 16.4	0.2 0.3
21	1620	2002 Jan.	8.71637	00 48 52.78	+23 55 19.2	0.1 0.1
22	1620	2002 Jan.	16.70782	01 03 37.96	+24 20 39.3	0.3 0.3
23	1620	2002 Jan.	17.72818	01 05 34.16	+24 24 23.5	0.2 0.1
24	1620	2002 Jan.	17.74792	01 05 36.47	+24 24 28.3	0.2 0.2
25	1620	2002 Jan.	18.73295	01 07 29.32	+24 28 11.3	0.3 0.2
26	1620	2002 Jan.	18.75550	01 07 31.97	+24 28 16.1	0.2 0.2
27	1627	2002 Jan.	8.78193	08 20 24.90	+15 52 12.5	0.1 0.3
28	1627	2002 Jan.	8.80385	08 20 23.32	+15 52 20.4	0.2 0.3
29	1627	2002 Jan.	9.80146	08 19 10.82	+15 58 28.7	0.3 0.3
30	1627	2002 Jan.	9.81493	08 19 09.81	+15 58 33.2	0.2 0.1
31	1943	2002 Jan.	8.82307	08 04 57.27	+01 30 02.0	0.1 0.2
32	1943	2002 Jan.	8.83726	08 04 55.87	+01 29 50.6	0.2 0.2
33	1943	2002 Jan.	9.82190	08 03 20.93	+01 16 28.7	0.3 0.2
34	1943	2002 Jan.	9.83648	08 03 19.47	+01 16 16.9	0.3 0.2
35	1943	2002 Feb.	3.82466	07 15 48.88	-02 24 27.2	0.1 0.1
36	1943	2002 Feb.	3.83056	07 15 48.20	-02 24 28.0	0.1 0.2
37	1943	2002 Feb.	5.78647	07 12 22.45	-02 29 52.1	0.1 0.3
38	1943	2002 Feb.	5.79310	07 12 21.69	-02 29 52.9	0.1 0.2
39	1943	2002 Mar.	13.87803	06 52 06.85	-00 29 09.0	0.3 0.2
40	1943	2002 Mar.	13.88523	06 52 07.11	-00 29 06.5	0.2 0.1
41	4563	2002 Apr.	4.80147	07 36 09.87	+21 57 45.2	0.2 0.2
42	4563	2002 Apr.	4.82122	07 36 10.82	+21 57 43.9	0.1 0.1
43	5534	2002 Jan.	17.80142	06 57 13.48	+36 58 36.6	0.1 0.1
44	5534	2002 Jan.	17.80936	06 57 13.03	+36 58 35.1	0.1 0.1
45	6797	2002 Apr.	4.80147	07 35 15.33	+21 53 04.5	0.2 0.1
46	6797	2002 Apr.	4.82122	07 35 15.99	+21 53 02.9	0.1 0.1

N	MP	Date U.T.	<i>R.A.</i> ₂₀₀₀	<i>Decl.</i> ₂₀₀₀	d α	d δ
47	14593	2002 Dec.	14.06732	08 21 48.55	+26 43 53.4	0.2 0.2
48	14593	2002 Dec.	14.08014	08 21 48.31	+26 43 58.1	0.2 0.1
49	16965	2002 Sep.	10.84347	23 42 23.47	+01 22 49.1	0.3 0.3
50	16965	2002 Sep.	10.84900	23 42 23.14	+01 22 48.8	0.3 0.3
51	16965	2002 Sep.	10.85721	23 42 22.66	+01 22 48.2	0.3 0.3
52	16965	2002 Nov.	28.74847	23 16 56.10	+02 10 41.6	0.3 0.2
53	16965	2002 Nov.	28.76014	23 16 56.67	+02 10 44.9	0.3 0.3
54	16965	2002 Dec.	14.68666	23 31 52.41	+03 51 30.7	0.2 0.1
55	16965	2002 Dec.	14.69956	23 31 53.29	+03 51 37.9	0.2 0.1
56	17209	2002 Aug.	30.89081	21 45 19.47	-00 13 40.4	0.2 0.1
57	17209	2002 Aug.	30.90361	21 45 18.73	-00 13 42.0	0.3 0.2
58	17209	2002 Sep.	4.81926	21 41 03.12	-00 25 53.3	0.3 0.2
59	17209	2002 Sep.	10.82575	21 36 16.63	-00 42 28.4	0.1 0.2
60	17209	2002 Sep.	10.83404	21 36 16.27	-00 42 29.8	0.2 0.2
61	17209	2002 Oct.	2.80671	21 25 02.89	-01 43 29.6	0.2 0.2
62	17209	2002 Oct.	2.81531	21 25 02.72	-01 43 29.9	0.1 0.2
63	35107	2002 Jul.	8.96713	01 19 25.36	+22 48 36.9	0.1 0.2
64	35107	2002 Jul.	8.98078	01 19 30.44	+22 48 23.0	0.1 0.2
65	35107	2002 Jul.	9.95576	01 25 29.05	+22 30 46.0	0.1 0.3
66	35107	2002 Jul.	16.03808	02 02 24.76	+20 23 17.4	0.3 0.3
67	35107	2002 Jul.	16.04794	02 02 28.30	+20 23 03.5	0.1 0.1
68	35107	2002 Jul.	16.05396	02 02 30.39	+20 22 55.2	0.3 0.3
69	35107	2002 Jul.	18.05292	02 14 24.73	+19 35 14.6	0.2 0.2
70	35107	2002 Jul.	18.05637	02 14 26.00	+19 35 09.9	0.2 0.2
71	36236	2002 Nov.	3.86104	03 40 05.14	+55 54 09.1	0.1 0.1
72	36236	2002 Nov.	3.86687	03 40 03.34	+55 53 54.2	0.1 0.1
73	(2002 AB5)	2002 May	8.89618	13 16 15.66	-07 04 22.7	0.3 0.3
74	(2002 AB5)	2002 May	8.91273	13 16 15.08	-07 04 29.2	0.2 0.2
75	(2002 AJ29)	2002 Jul.	5.96339	19 20 00.98	+09 48 42.1	0.0 0.0
76	(2002 AJ29)	2002 Jul.	5.97208	19 20 00.28	+09 48 37.5	0.1 0.1
77	(2002 AJ29)	2002 Jul.	10.92416	19 14 18.23	+08 49 24.3	0.2 0.1
78	(2002 AJ29)	2002 Jul.	10.93082	19 14 17.58	+08 49 19.4	0.2 0.2
79	(2002 CW134)	2002 Apr.	4.88009	12 26 26.94	-18 42 41.5	0.2 0.1
80	(2002 CW134)	2002 Apr.	4.89546	12 26 26.05	-18 42 49.6	0.2 0.2
81	(2002 CX11)	2002 May	7.86309	14 52 16.15	+17 37 10.8	0.2 0.3
82	(2002 CX11)	2002 May	7.88126	14 52 16.01	+17 37 14.0	0.2 0.3
83	(2002 GH1)	2002 May	6.88611	10 54 24.31	+42 09 34.3	0.2 0.2
84	(2002 GH1)	2002 May	6.90141	10 54 27.55	+42 09 39.3	0.2 0.3
85	(2002 HU11)	2002 Jul.	5.93154	18 53 21.29	+05 23 13.4	0.2 0.1
86	(2002 HU11)	2002 Jul.	5.93640	18 53 21.98	+05 22 44.3	0.3 0.2
87	(2002 HU11)	2002 Jul.	10.91093	19 07 13.07	-03 57 52.6	0.1 0.1
88	(2002 HU11)	2002 Jul.	10.91316	19 07 13.47	-03 58 09.6	0.1 0.1
89	(2002 KH3)	2002 Aug.	27.78738	00 02 31.74	+36 53 20.6	0.1 0.2
90	(2002 KH3)	2002 Aug.	27.79848	00 02 31.58	+36 53 16.2	0.2 0.1
91	(2002 KH3)	2002 Aug.	27.80737	00 02 31.46	+36 53 13.4	0.1 0.1
92	(2002 KH3)	2002 Aug.	29.85856	00 01 45.61	+36 39 44.1	0.1 0.1

N	MP	Date U.T.		<i>R.A.</i> ₂₀₀₀	<i>Decl.</i> ₂₀₀₀	$d\alpha$	$d\delta$
93	(2002 KH3)	2002 Aug.	29.87411	00 01 45.31	+36 39 34.2	0.1	0.1
94	(2002 KH3)	2002 Aug.	31.84034	00 00 53.60	+36 23 32.5	0.2	0.2
95	(2002 KH3)	2002 Aug.	31.85536	00 00 53.13	+36 23 24.7	0.2	0.2
96	(2002 KH3)	2002 Sep.	10.77076	23 55 11.51	+34 19 48.8	0.2	0.1
97	(2002 KH3)	2002 Sep.	10.78176	23 55 11.09	+34 19 38.2	0.3	0.1
98	(2002 RP120)	2002 Oct.	1.03494	03 54 41.31	+15 14 46.6	0.3	0.2
99	(2002 RP120)	2002 Oct.	1.04389	03 54 39.79	+15 14 55.2	0.3	0.2
100	(2002 RP120)	2002 Nov.	3.88435	01 39 30.70	+22 37 12.5	0.2	0.1
101	(2002 RP120)	2002 Nov.	3.89081	01 39 28.95	+22 37 14.6	0.2	0.1
102	(2002 RP120)	2002 Dec.	9.67134	23 48 16.55	+22 31 07.5	0.1	0.1
103	(2002 RP120)	2002 Dec.	9.68281	23 48 15.39	+22 31 05.9	0.1	0.3
104	(2002 RP120)	2002 Dec.	11.70238	23 45 01.10	+22 28 29.8	0.1	0.2
105	(2002 RP120)	2002 Dec.	11.72381	23 44 59.09	+22 28 28.2	0.1	0.2
106	(2002 RP120)	2002 Dec.	14.67472	23 40 42.90	+22 25 30.9	0.3	0.1
107	(2002 RP120)	2002 Dec.	14.68098	23 40 42.44	+22 25 31.6	0.3	0.1
108	(2002 RP120)	2002 Dec.	26.69975	23 28 05.20	+22 25 52.3	0.2	0.2
109	(2002 RP120)	2002 Dec.	26.71244	23 28 04.62	+22 25 52.9	0.2	0.2

3. Reference stars

The individual columns of the table contain the following:

N – serial number of the observation in agreement with the Section 2,

Numbers of reference stars in the USNO-A2.0 Star Catalog,

$\Delta\alpha$ – the O–C difference in R.A. in arc seconds,

$\Delta\delta$ – the O–C difference in Decl. in arc seconds.

The position of each reference star in the field of other reference stars is determined within the used method of plate constants. $\Delta\alpha$ and $\Delta\delta$ are the differences between observed (O) and calculated (C) coordinates. Except of a common measurement error, these differences are caused by an inaccuracy of position of a given star in the catalog and by the time shift between the catalog and considered epochs.

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
1	A 1425.04375838	+0.4	-0.0	A 1425.04376528	-0.2	+0.2
	A 1425.04373376	+0.4	-0.5	A 1425.04372507	-0.2	+0.3
	A 1425.04368128	+0.1	+0.1	A 1425.04367813	-0.2	+0.0
	A 1425.04369012	+0.5	-0.7	A 1425.04367584	+0.1	+0.4
	A 1425.04371309	-0.3	+0.2	A 1425.04372677	-0.4	+0.0
2	A 1425.04375838	+0.3	-0.1	A 1425.04376528	+0.2	-0.2
	A 1425.04373376	-0.0	-0.1	A 1425.04372507	-0.4	+0.6
	A 1425.04368128	+0.2	+0.0	A 1425.04367813	-0.2	-0.0
	A 1425.04369012	+0.5	-0.8	A 1425.04367584	+0.1	+0.3

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 1425.04371309	-0.3	+0.2	A 1425.04372677	-0.3	+0.1
3	A 1350.03902212	+0.2	-0.1	A 1350.03901935	-0.1	+0.1
	A 1350.03890156	-0.1	+0.0	A 1350.03884211	+0.2	-0.1
	A 1350.03899222	-0.6	+0.7	A 1350.03896976	+0.3	-0.6
	A 1350.03905218	+0.2	-0.2	A 1350.03885305	-0.1	+0.0
4	A 1350.03902212	+0.1	-0.1	A 1350.03901935	-0.1	+0.1
	A 1350.03890156	+0.0	-0.0	A 1350.03884211	-0.0	+0.1
	A 1350.03899222	-0.3	+0.3	A 1350.03896976	+0.1	-0.5
	A 1350.03905218	+0.2	+0.1	A 1350.03885305	+0.1	+0.1
5	A 1050.06439108	-0.1	-0.3	A 1050.06439839	+0.1	+0.2
	A 1050.06437285	-0.3	+0.0	A 1050.06437258	+0.4	+0.1
	A 1050.06438131	-0.0	+0.1	A 1050.06437771	-0.1	-0.2
	A 1050.06438457	+0.0	+0.1			
6	A 1050.06439108	-0.4	-0.2	A 1050.06439839	+0.3	+0.1
	A 1050.06437285	-0.4	+0.0	A 1050.06437258	+0.5	+0.1
	A 1050.06438131	+0.0	+0.0	A 1050.06437771	-0.0	-0.2
	A 1050.06438457	-0.0	+0.1			
7	A 1125.06221042	-0.1	+0.4	A 1125.06220514	+0.5	-0.6
	A 1125.06221665	-0.0	-0.1	A 1125.06220352	-0.0	-0.1
	A 1125.06220800	-0.2	+0.1	A 1125.06219941	-0.2	+0.3
8	A 1125.06221042	-0.2	+0.4	A 1125.06220514	+0.3	-0.8
	A 1125.06220352	+0.1	-0.0	A 1125.06219941	-0.3	+0.1
	A 1125.06221727	-0.1	+0.0	A 1125.06221842	+0.0	-0.1
	A 1125.06220314	+0.2	+0.4			
9	A 1200.06497159	+0.1	+0.3	A 1200.06495042	+0.3	+0.0
	A 1200.06495446	-0.4	-0.4	A 1200.06497123	+0.1	+0.1
	A 1200.06497045	-0.4	-0.5	A 1200.06497210	+0.2	-0.1
	A 1200.06496068	+0.4	+0.6	A 1200.06496030	-0.3	+0.0
10	A 1200.06497159	-0.0	+0.3	A 1200.06495042	-0.2	+0.3
	A 1200.06497123	+0.2	+0.2	A 1200.06497045	-0.4	-0.5
	A 1200.06497210	-0.0	-0.0	A 1200.06496068	+0.2	+0.3
	A 1200.06496030	+0.3	-0.4	A 1200.06495058	+0.0	-0.3
11	A 1125.06079251	+0.2	+0.0	A 1125.06078202	-0.3	-0.2
	A 1125.06077274	+0.0	+0.4	A 1125.06078171	+0.3	+0.0
	A 1125.06077565	-0.7	-0.0	A 1125.06076508	+0.3	+0.1
	A 1125.06076707	+0.0	-0.3			
12	A 1125.06078336	-0.3	-0.2	A 1125.06077274	+0.1	+0.2
	A 1125.06076913	+0.1	-0.4	A 1125.06077024	+0.2	+0.3
	A 1125.06077565	-0.4	+0.4	A 1125.06078171	+0.0	-0.4
	A 1125.06079251	+0.3	+0.2			
13	A 1125.00244845	-0.1	-0.0	A 1125.00243483	+0.6	-0.2
	A 1125.00242928	-0.2	+0.1	A 1125.00242320	-0.3	+0.2
	A 1125.00242453	+0.1	-0.0	A 1125.00243866	+0.1	-0.0
	A 1125.00245171	-0.1	-0.1	A 1125.00245299	+0.2	+0.1
	A 1125.00245792	-0.2	+0.1			
14	A 1125.00244845	-0.0	-0.1	A 1125.00243483	+0.6	-0.3

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 1125.00242928	-0.3	+0.1	A 1125.00242320	-0.3	+0.2
	A 1125.00242453	+0.0	-0.0	A 1125.00243866	+0.2	-0.0
	A 1125.00245171	-0.2	-0.1	A 1125.00245299	+0.2	+0.0
	A 1125.00245792	-0.2	+0.2			
15	A 1125.00244845	-0.0	+0.0	A 1125.00243483	+0.6	-0.3
	A 1125.00242928	-0.2	+0.1	A 1125.00242320	-0.4	+0.1
	A 1125.00242453	+0.1	-0.1	A 1125.00243866	+0.2	+0.0
	A 1125.00245171	-0.1	-0.1	A 1125.00245299	+0.2	+0.0
	A 1125.00245792	-0.3	+0.1			
16	A 1125.00253859	-0.0	-0.2	A 1125.00253320	+0.0	-0.1
	A 1125.00252848	-0.0	+0.5	A 1125.00252852	+0.2	-0.5
	A 1125.00254100	-0.2	+0.2	A 1125.00256911	+0.1	-0.2
	A 1125.00256465	-0.1	+0.2			
17	A 1125.00253859	-0.0	-0.1	A 1125.00253320	+0.0	-0.1
	A 1125.00252848	-0.1	+0.4	A 1125.00252852	+0.3	-0.4
	A 1125.00254100	-0.3	+0.2	A 1125.00256911	+0.2	-0.2
	A 1125.00256465	-0.1	+0.2			
18	A 1125.00287062	-0.0	-0.3	A 1125.00287285	-0.2	+0.1
	A 1125.00287517	+0.3	-0.2	A 1125.00286244	-0.0	-0.1
	A 1125.00285110	-0.2	+0.1	A 1125.00283761	+0.6	-0.5
	A 1125.00283832	-0.5	+0.2	A 1125.00285786	+0.0	+0.6
19	A 1125.00287062	-0.1	-0.3	A 1125.00287285	-0.2	+0.0
	A 1125.00287517	+0.3	-0.2	A 1125.00286244	-0.1	+0.0
	A 1125.00285110	-0.2	+0.0	A 1125.00283761	+0.6	-0.6
	A 1125.00283832	-0.5	+0.2	A 1125.00285786	+0.1	+0.7
20	A 1125.00295431	-0.1	+0.1	A 1125.00295745	+0.1	-0.1
	A 1125.00294234	+0.5	-0.1	A 1125.00293321	-0.4	+0.3
	A 1125.00293731	-0.2	+0.1	A 1125.00294754	+0.0	-0.3
	A 1125.00292535	-0.0	+0.8	A 1125.00292396	+0.3	-0.8
	A 1125.00294462	-0.2	-0.2	A 1125.00295865	+0.1	+0.2
21	A 1125.00293731	+0.2	-0.1	A 1125.00293321	-0.2	+0.2
	A 1125.00295865	-0.0	-0.0	A 1125.00295745	+0.0	-0.1
	A 1125.00294462	+0.0	+0.2	A 1125.00292820	-0.1	-0.0
	A 1125.00291803	+0.4	-0.2	A 1125.00291887	-0.3	+0.1
22	A 1125.00365783	-0.2	-0.6	A 1125.00364497	+0.4	+0.3
	A 1125.00363820	+0.1	+0.2	A 1125.00362414	-0.6	-0.4
	A 1125.00363471	+0.3	+0.4	A 1125.00364686	-0.1	+0.1
	A 1125.00365431	+0.4	-0.4	A 1125.00366793	-0.6	+0.2
	A 1125.00366978	+0.2	+0.2	A 1125.00366212	+0.0	+0.0
23	A 1125.00372078	+0.2	+0.2	A 1125.00372082	+0.1	-0.0
	A 1125.00374949	+0.3	+0.3	A 1125.00372577	-0.2	+0.0
	A 1125.00373562	-0.3	-0.3	A 1125.00375596	+0.0	-0.2
	A 1125.00376815	+0.2	+0.1	A 1125.00376035	-0.3	-0.1
24	A 1125.00372078	+0.4	+0.2	A 1125.00372082	-0.1	-0.0
	A 1125.00374949	+0.3	+0.4	A 1125.00372577	-0.0	+0.0
	A 1125.00373562	-0.5	-0.3	A 1125.00375596	+0.0	-0.3
	A 1125.00376815	+0.1	+0.1	A 1125.00376035	-0.2	-0.1

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
25	A 1125.00384632	+0.6	-0.2	A 1125.00384420	-0.6	+0.1
	A 1125.00381103	-0.2	-0.6	A 1125.00381381	+0.1	+0.2
	A 1125.00382028	+0.0	-0.0	A 1125.00383754	-0.2	+0.1
	A 1125.00384177	+0.1	-0.1	A 1125.00381716	+0.2	+0.6
26	A 1125.00381103	-0.3	-0.1	A 1125.00381381	+0.3	+0.4
	A 1125.00383754	+0.1	-0.2	A 1125.00384177	+0.4	-0.2
	A 1125.00381716	+0.3	+0.0	A 1125.00384990	-0.1	+0.2
	A 1125.00384633	+0.0	+0.2	A 1125.00383638	-0.4	-0.1
27	A 1125.00382517	-0.2	-0.3			
	A 1050.05681446	+0.4	-0.1	A 1050.05681227	-0.3	-0.3
	A 1050.05684293	-0.0	-0.0	A 1050.05680613	-0.0	+0.4
	A 1050.05684295	-0.0	-0.2	A 1050.05684956	+0.0	+0.3
28	A 1050.05678963	+0.0	+0.4	A 1050.05678988	-0.0	-0.4
	A 1050.05681446	+0.3	-0.1	A 1050.05681227	-0.3	-0.3
	A 1050.05684293	-0.1	-0.0	A 1050.05680613	+0.2	+0.4
	A 1050.05684295	+0.1	-0.3	A 1050.05684956	-0.1	+0.3
29	A 1050.05678963	-0.0	+0.5	A 1050.05678988	-0.1	-0.5
	A 1050.05671912	-0.1	+0.2	A 1050.05674866	+0.2	+0.3
	A 1050.05674282	+0.3	+0.3	A 1050.05675199	-0.1	-0.1
	A 1050.05673576	-0.2	-0.2	A 1050.05670324	-0.1	-0.1
30	A 1050.05669688	+0.4	+0.3	A 1050.05672564	-0.5	-0.7
	A 1050.05671912	-0.7	+0.2	A 1050.05674866	+0.1	+0.3
	A 1050.05674282	+0.1	+0.1	A 1050.05675199	-0.2	-0.2
	A 1050.05673576	+0.1	-0.1	A 1050.05670324	+0.0	+0.0
31	A 1050.05669688	+0.1	+0.0	A 1050.05672301	+0.5	-0.2
	A 0900.05699751	+0.2	+0.3	A 0900.05700255	-0.3	+0.0
	A 0900.05701392	-0.1	-0.1	A 0900.05700328	-0.0	+0.3
	A 0900.05697529	+0.2	-0.2	A 0900.05692391	-0.2	+0.2
32	A 0900.05693807	+0.1	-0.2	A 0900.05702220	+0.1	-0.3
	A 0900.05699751	+0.1	+0.1	A 0900.05700255	-0.1	+0.1
	A 0900.05701392	-0.3	+0.2	A 0900.05700328	+0.1	+0.1
	A 0900.05697529	+0.3	-0.3	A 0900.05692391	-0.2	+0.3
33	A 0900.05693807	+0.1	-0.2	A 0900.05702220	+0.1	-0.2
	A 0900.05677868	+0.1	-0.1	A 0900.05678349	+0.1	-0.0
	A 0900.05677662	-0.7	-0.2	A 0900.05676630	+0.6	+0.2
	A 0900.05673254	-0.2	+0.0	A 0900.05670142	+0.3	+0.3
34	A 0900.05670227	-0.4	-0.5	A 0900.05672747	+0.2	+0.2
	A 0900.05677868	+0.1	-0.1	A 0900.05678349	+0.0	+0.0
	A 0900.05677662	-0.7	-0.1	A 0900.05676630	+0.6	+0.1
	A 0900.05673254	-0.3	+0.2	A 0900.05670142	+0.4	+0.2
35	A 0900.05670227	-0.4	-0.6	A 0900.05672747	+0.1	+0.3
	A 0825.04394842	+0.3	-0.0	A 0825.04389132	-0.3	+0.0
	A 0825.04387315	+0.0	-0.1	A 0825.04383762	-0.0	+0.0
	A 0825.04382712	+0.1	+0.2	A 0825.04402237	-0.0	+0.2
	A 0825.04404264	-0.1	-0.1	A 0825.04407926	+0.1	+0.1
	A 0825.04395517	-0.0	-0.3			

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
36	A 0825.04394842	+0.3	-0.0	A 0825.04389132	-0.4	+0.1
	A 0825.04387315	+0.1	-0.2	A 0825.04383762	+0.1	+0.1
	A 0825.04382712	+0.0	+0.2	A 0825.04402237	+0.0	+0.2
	A 0825.04404264	-0.1	-0.1	A 0825.04407926	+0.0	+0.1
	A 0825.04395517	+0.1	-0.4			
37	A 0825.04229442	-0.0	+0.3	A 0825.04231258	-0.1	-0.6
	A 0825.04231461	+0.0	+0.2	A 0825.04222579	+0.1	+0.3
	A 0825.04215908	-0.2	-0.5	A 0825.04219943	+0.1	+0.2
	A 0825.04216908	+0.1	+0.2			
38	A 0825.04231258	+0.1	-0.2	A 0825.04234980	+0.1	-0.3
	A 0825.04237626	-0.1	+0.2	A 0825.04234624	-0.1	+0.1
	A 0825.04215078	+0.1	+0.2	A 0825.04215908	-0.2	-0.3
	A 0825.04222579	-0.1	+0.4	A 0825.04231461	+0.2	+0.0
	A 0825.04241890	-0.1	+0.0	A 0825.04222449	-0.0	-0.1
39	A 0825.03372522	+0.2	-0.2	A 0825.03361019	-0.3	+0.1
	A 0825.03361312	+0.3	+0.4	A 0825.03367972	-0.2	-0.4
	A 0825.03379091	-0.1	+0.0	A 0825.03380288	+0.1	-0.1
	A 0825.03383381	+0.3	+0.1	A 0825.03384503	-0.5	+0.3
40	A 0825.03374806	+0.3	-0.2			
	A 0825.03372522	+0.1	-0.1	A 0825.03361019	-0.2	+0.0
	A 0825.03361312	+0.2	+0.3	A 0825.03367972	-0.2	-0.3
	A 0825.03379091	-0.1	+0.1	A 0825.03380288	+0.1	-0.1
	A 0825.03383381	+0.3	+0.1	A 0825.03384503	-0.3	+0.1
41	A 0825.03374806	+0.1	-0.1			
	A 1050.05270821	-0.1	+0.1	A 1050.05270210	+0.0	-0.2
	A 1050.05268522	+0.3	-0.2	A 1050.05268451	+0.3	+0.2
	A 1050.05273659	+0.0	-0.1	A 1050.05267041	-0.7	-0.3
	A 1050.05266707	+0.4	+0.2	A 1050.05270473	-0.1	+0.1
42	A 1050.05267275	+0.1	-0.1	A 1050.05269107	-0.2	+0.3
	A 1050.05274350	+0.0	-0.0	A 1050.05273922	+0.1	+0.0
	A 1050.05270473	-0.2	-0.0	A 1050.05268791	+0.2	-0.0
	A 1050.05268451	-0.0	+0.0	A 1050.05268522	+0.2	-0.3
	A 1050.05269864	-0.3	+0.3	A 1050.05273576	+0.0	-0.1
43	A 1200.05282505	+0.1	-0.0	A 1200.05277686	-0.2	+0.3
	A 1200.05275730	+0.0	-0.2	A 1200.05270884	+0.1	+0.1
	A 1200.05271489	+0.1	-0.1	A 1200.05275453	-0.1	+0.0
	A 1200.05276894	+0.1	+0.1	A 1200.05279497	-0.2	+0.2
44	A 1200.05281666	+0.2	-0.2			
	A 1200.05282505	+0.1	+0.0	A 1200.05277686	-0.1	+0.2
	A 1200.05275730	-0.0	-0.1	A 1200.05270884	+0.1	+0.1
	A 1200.05271489	+0.1	-0.3	A 1200.05275453	-0.1	+0.1
	A 1200.05276894	+0.0	+0.2	A 1200.05279497	+0.0	-0.0
45	A 1200.05281666	-0.0	-0.2			
	A 1050.05259814	+0.0	+0.1	A 1050.05259921	+0.1	+0.0
	A 1050.05259359	-0.4	-0.1	A 1050.05260625	+0.3	+0.1
	A 1050.05263375	-0.0	+0.0	A 1050.05263777	-0.4	+0.3
	A 1050.05262367	+0.2	-0.1	A 1050.05264086	+0.1	-0.3

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
46	A 1050.05259814	-0.1	+0.1	A 1050.05259921	+0.1	-0.2
	A 1050.05260625	-0.1	+0.1	A 1050.05263375	-0.0	+0.0
	A 1050.05263777	-0.1	+0.1	A 1050.05262367	+0.1	-0.0
	A 1050.05264086	+0.1	-0.2			
47	A 1125.05600282	+0.3	+0.2	A 1125.05599190	-0.0	-0.2
	A 1125.05597802	-0.1	+0.3	A 1125.05596781	+0.1	-0.4
	A 1125.05598225	-0.2	+0.2	A 1125.05599954	+0.5	+0.0
	A 1125.05601319	-0.4	-0.2			
48	A 1125.05600282	+0.2	+0.1	A 1125.05599190	-0.0	-0.1
	A 1125.05597802	-0.1	+0.2	A 1125.05596781	+0.1	-0.2
	A 1125.05598225	-0.2	+0.1	A 1125.05599954	+0.4	+0.0
	A 1125.05601319	-0.3	-0.1			
49	A 0900.20472396	+0.3	+0.4	A 0900.20470617	-0.1	-0.1
	A 0900.20471244	-0.4	-0.4	A 0900.20471259	+0.5	+0.5
	A 0900.20472816	+0.1	+0.1	A 0900.20472908	-0.3	-0.3
	A 0900.20472743	-0.0	-0.1			
50	A 0900.20472396	+0.3	+0.3	A 0900.20470617	-0.1	-0.1
	A 0900.20471244	-0.4	-0.5	A 0900.20471259	+0.5	+0.6
	A 0900.20472816	+0.1	+0.1	A 0900.20472908	-0.4	-0.2
	A 0900.20472743	+0.1	-0.2			
51	A 0900.20472396	+0.3	+0.3	A 0900.20470617	-0.1	-0.1
	A 0900.20471244	-0.4	-0.5	A 0900.20471259	+0.5	+0.6
	A 0900.20472816	+0.1	+0.1	A 0900.20472908	-0.3	-0.2
	A 0900.20472743	+0.0	-0.2			
52	A 0900.20364934	-0.2	+0.5	A 0900.20365114	+0.6	-0.0
	A 0900.20362913	-0.1	+0.1	A 0900.20364645	-0.2	-0.4
	A 0900.20362798	+0.1	-0.0	A 0900.20364884	-0.4	-0.1
	A 0900.20363841	+0.2	+0.0			
53	A 0900.20364934	-0.3	+0.4	A 0900.20365114	+0.6	-0.1
	A 0900.20362913	-0.1	-0.2	A 0900.20364645	-0.1	-0.5
	A 0900.20362798	+0.1	+0.0	A 0900.20364884	-0.4	-0.1
	A 0900.20363841	+0.2	+0.4			
54	A 0900.20428150	+0.3	-0.0	A 0900.20429974	-0.1	-0.2
	A 0900.20427717	+0.1	-0.1	A 0900.20430836	-0.1	-0.1
	A 0900.20430704	+0.1	+0.3	A 0900.20426973	-0.3	+0.1
55	A 0900.20427098	+0.0	+0.2	A 0900.20429492	-0.5	+0.2
	A 0900.20430263	+0.1	+0.0	A 0900.20430853	+0.2	-0.1
	A 0900.20428082	+0.0	-0.3	A 0900.20427717	+0.1	-0.1
56	A 0825.19393593	+0.3	-0.1	A 0825.19390898	-0.1	+0.1
	A 0825.19390961	-0.1	+0.0	A 0825.19393181	+0.2	-0.0
	A 0825.19396413	+0.1	-0.2	A 0825.19396872	-0.5	+0.4
	A 0825.19397367	+0.3	+0.0	A 0825.19395793	-0.2	-0.2
57	A 0825.19393593	+0.3	-0.2	A 0825.19396413	-0.1	+0.0
	A 0825.19396872	-0.4	+0.3	A 0825.19397367	+0.5	-0.3
	A 0825.19395793	-0.4	+0.3	A 0825.19391349	-0.2	+0.1
	A 0825.19393613	+0.2	-0.1			

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
58	A 0825.19352374	+0.4	+0.2	A 0825.19351886	-0.3	-0.5
	A 0825.19352230	+0.4	+0.1	A 0825.19356240	+0.3	+0.2
	A 0825.19356616	-0.3	-0.1	A 0825.19357013	-0.2	-0.0
59	A 0825.19350293	-0.3	+0.1			
	A 0825.19306495	-0.0	+0.1	A 0825.19306109	-0.0	-0.3
	A 0825.19307759	+0.0	+0.4	A 0825.19310853	-0.2	-0.1
60	A 0825.19311865	+0.2	-0.1	A 0825.19312388	-0.1	+0.0
	A 0825.19306495	+0.0	+0.1	A 0825.19306109	-0.1	-0.3
	A 0825.19307759	+0.1	+0.4	A 0825.19310853	-0.3	-0.2
61	A 0825.19311865	+0.4	+0.0	A 0825.19312388	-0.2	-0.0
	A 0825.19196455	+0.1	-0.0	A 0825.19195513	+0.0	+0.1
	A 0825.19196736	-0.2	-0.0	A 0825.19197525	+0.2	-0.3
62	A 0825.19197241	-0.5	-0.3	A 0825.19195051	+0.2	-0.1
	A 0825.19197563	+0.3	+0.5	A 0825.19193678	-0.1	+0.1
	A 0825.19196455	+0.2	+0.1	A 0825.19195513	+0.0	+0.1
63	A 0825.19196736	+0.0	-0.2	A 0825.19197525	+0.1	+0.1
	A 0825.19197241	-0.0	-0.5	A 0825.19195051	-0.1	+0.0
	A 0825.19197563	-0.2	+0.3	A 0825.19193678	+0.0	-0.0
64	A 1125.00446271	+0.0	-0.0	A 1125.00447227	-0.0	+0.0
	A 1125.00446566	+0.1	-0.1	A 1125.00445323	-0.3	+0.4
	A 1125.00444591	-0.0	-0.2	A 1125.00444721	+0.4	-0.3
65	A 1125.00444123	-0.2	+0.1			
	A 1125.00446271	+0.0	+0.1	A 1125.00447227	-0.0	-0.0
	A 1125.00446566	+0.1	-0.1	A 1125.00445323	-0.2	+0.4
66	A 1125.00444591	-0.0	-0.1	A 1125.00444721	+0.4	-0.4
	A 1125.00444123	-0.2	+0.1			
	A 1125.00478819	-0.3	+0.6	A 1125.00478938	+0.2	-0.5
67	A 1125.00475644	-0.2	-0.4	A 1125.00475470	+0.2	+0.3
	A 1125.00479346	+0.1	-0.1	A 1050.00390678	+0.0	+0.1
	A 1050.00561766	+0.3	+0.2	A 1050.00561383	-0.9	+0.8
68	A 1050.00562292	+0.2	-0.4	A 1050.00562041	-0.3	+0.5
	A 1050.00561621	+0.0	-0.4	A 1050.00560409	+0.2	-0.1
	A 1050.00561525	+0.5	-0.1	A 1050.00560254	-0.0	-0.2
69	A 1050.00562521	-0.0	-0.2			
	A 1050.00558552	-0.0	+0.0	A 1050.00562041	+0.1	-0.1
	A 1050.00561660	-0.0	+0.0	A 1050.00558554	+0.1	-0.1
70	A 1050.00561383	-0.2	+0.4	A 1050.00562406	+0.1	-0.2
	A 1050.00561525	+0.4	-0.3	A 1050.00561766	+0.0	-0.3
	A 1050.00561383	-0.5	+0.8	A 1050.00562041	-0.1	+0.2
71	A 1050.00562292	+0.3	+0.1	A 1050.00561621	-0.2	-0.6
	A 1050.00560409	-0.2	+0.4	A 1050.00560199	+0.5	-0.4
	A 1050.00560480	-0.1	+0.0			
72	A 1050.00617229	-0.5	-0.1	A 1050.00615487	+0.1	+0.3
	A 1050.00615230	-0.1	+0.2	A 1050.00615476	+0.2	-0.5
	A 1050.00617040	-0.1	+0.0	A 1050.00618554	+0.3	+0.1
73	A 1050.00617229	-0.4	-0.2	A 1050.00615487	+0.1	+0.3
	A 1050.00615230	-0.1	+0.2	A 1050.00615476	+0.2	-0.4

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 1050.00617040	-0.0	-0.0	A 1050.00618554	+0.2	+0.1
71	A 1425.04452425	+0.1	-0.0	A 1425.04452776	+0.3	-0.3
	A 1425.04451899	-0.2	+0.2	A 1425.04445777	+0.1	-0.2
	A 1425.04445661	+0.0	-0.0	A 1425.04450236	-0.2	+0.2
	A 1425.04444401	+0.0	+0.1			
72	A 1425.04452425	+0.0	-0.0	A 1425.04452776	+0.2	-0.2
	A 1425.04451899	-0.2	+0.2	A 1425.04445777	-0.0	-0.1
	A 1425.04445661	+0.0	-0.0	A 1425.04450236	-0.1	+0.1
	A 1425.04444401	+0.0	+0.1			
73	A 0825.07954557	-0.2	-0.4	A 0825.07955934	+0.2	+0.2
	A 0825.07956167	-0.2	-0.2	A 0825.07955978	-0.3	+0.2
	A 0825.07956630	+0.3	-0.1	A 0825.07954061	-0.5	-0.3
	A 0825.07953946	+0.5	+0.3	A 0825.07953842	+0.4	-0.3
	A 0825.07953787	-0.1	+0.4			
74	A 0825.07954557	+0.1	-0.3	A 0825.07955934	-0.0	+0.2
	A 0825.07956167	-0.0	-0.2	A 0825.07955978	-0.1	+0.0
	A 0825.07956630	+0.1	+0.1	A 0825.07954061	-0.3	-0.3
	A 0825.07953946	+0.2	+0.3	A 0825.07953842	+0.4	-0.0
	A 0825.07953787	-0.4	+0.2			
75	A 0975.14581822	-0.0	+0.0	A 0975.14583620	+0.0	+0.0
	A 0975.14584660	-0.1	-0.0	A 0975.14585414	+0.0	+0.0
	A 0975.14583814	+0.0	-0.0	A 0975.14583457	-0.0	+0.0
76	A 0975.14581822	-0.0	-0.0	A 0975.14583620	+0.1	+0.1
	A 0975.14584660	-0.2	+0.0	A 0975.14585414	+0.1	-0.1
	A 0975.14583814	-0.0	+0.1	A 0975.14583457	+0.0	-0.1
77	A 0975.14395997	-0.2	+0.4	A 0975.14399017	+0.2	-0.1
	A 0975.14397732	+0.5	-0.4	A 0975.14399683	-0.5	+0.1
	A 0975.14384703	+0.0	-0.0	A 0975.14384028	+0.0	-0.0
	A 0975.14387781	+0.0	-0.0	A 0975.14389445	-0.3	-0.1
	A 0975.14397791	+0.3	+0.3	A 0975.14403738	-0.1	-0.0
78	A 0975.14395997	-0.2	+0.3	A 0975.14399017	+0.2	-0.1
	A 0975.14397732	+0.5	-0.4	A 0975.14399683	-0.5	+0.1
	A 0975.14384703	-0.1	+0.1	A 0975.14384028	+0.1	-0.1
	A 0975.14387781	-0.0	-0.0	A 0975.14389445	-0.2	-0.1
	A 0975.14397791	+0.3	+0.3	A 0975.14403738	-0.1	-0.0
79	A 0675.12053581	+0.2	-0.2	A 0675.12052193	-0.1	-0.0
	A 0675.12048917	+0.1	+0.0	A 0675.12048475	-0.2	-0.0
	A 0675.12050112	-0.1	+0.1	A 0675.12051827	+0.6	-0.1
	A 0675.12053786	-0.4	+0.0	A 0675.12054665	+0.1	-0.0
	A 0675.12054147	-0.2	+0.2			
80	A 0675.12053581	+0.1	-0.2	A 0675.12052193	+0.3	+0.3
	A 0675.12048475	-0.0	-0.2	A 0675.12050112	-0.2	+0.3
	A 0675.12051827	+0.4	-0.1	A 0675.12053786	-0.2	-0.2
	A 0675.12054665	+0.1	+0.2	A 0675.12054147	-0.4	-0.2
	A 0675.12048782	-0.1	-0.0			
81	A 1050.07319036	+0.1	-0.5	A 1050.07318362	-0.5	+0.7

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 1050.07317299	+0.2	-0.1	A 1050.07316656	+0.1	-0.1
	A 1050.07319456	-0.0	-0.2	A 1050.07320036	+0.2	+0.2
82	A 1050.07319036	+0.3	-0.4	A 1050.07318362	-0.7	+0.8
	A 1050.07317299	+0.2	-0.2	A 1050.07316656	+0.1	-0.1
	A 1050.07319456	+0.0	-0.1	A 1050.07320036	+0.1	-0.0
83	A 1275.07817803	+0.1	-0.0	A 1275.07817240	-0.4	-0.1
	A 1275.07815502	-0.1	+0.3	A 1275.07815219	+0.2	-0.4
	A 1275.07814189	+0.2	+0.2	A 1275.07815575	-0.3	-0.3
	A 1275.07816745	-0.2	+0.2	A 1275.07818101	+0.4	+0.1
84	A 1275.07817803	-0.2	+0.0	A 1275.07817240	-0.0	-0.3
	A 1275.07815502	-0.2	+0.4	A 1275.07815219	+0.2	-0.4
	A 1275.07814189	+0.3	+0.1	A 1275.07815575	-0.6	-0.0
	A 1275.07816745	+0.3	-0.2	A 1275.07818101	+0.2	+0.4
85	A 0900.13679241	-0.3	-0.0	A 0900.13678826	+0.4	-0.1
	A 0900.13678544	+0.1	+0.2	A 0900.13677167	-0.3	+0.1
	A 0900.13676762	+0.2	-0.1	A 0900.13673024	+0.2	-0.1
	A 0900.13671682	-0.1	+0.1			
86	A 0900.13679241	-0.2	-0.1	A 0900.13678826	+0.3	-0.1
	A 0900.13678544	+0.1	+0.1	A 0900.13677167	-0.6	+0.3
	A 0900.13676762	+0.2	-0.1	A 0900.13673024	+0.4	-0.3
	A 0900.13671682	-0.3	+0.2			
87	A 0825.14483606	-0.1	-0.2	A 0825.14482556	+0.2	+0.1
	A 0825.14523117	-0.0	+0.0	A 0825.14510783	+0.0	-0.0
	A 0825.14479228	+0.0	-0.1	A 0825.14480782	-0.2	+0.2
88	A 0825.14483606	+0.1	-0.2	A 0825.14482556	+0.1	+0.0
	A 0825.14523117	-0.0	+0.0	A 0825.14510783	+0.0	-0.0
	A 0825.14479228	+0.1	-0.1	A 0825.14480782	-0.2	+0.2
89	A 1200.00024009	+0.1	+0.3	A 1200.00023363	-0.1	-0.0
	A 1200.00017533	+0.1	+0.1	A 1200.00019729	+0.1	-0.2
	A 1200.00021677	-0.3	+0.3	A 1200.00023437	+0.2	-0.4
	A 1200.00018589	-0.0	+0.0			
90	A 1200.00024009	+0.3	+0.2	A 1200.00023363	-0.2	-0.0
	A 1200.00017533	+0.2	+0.0	A 1200.00019729	-0.2	-0.1
	A 1200.00021677	-0.2	+0.1	A 1200.00023437	+0.1	-0.1
	A 1200.00018589	-0.0	+0.0			
91	A 1200.00024009	+0.1	+0.3	A 1200.00023363	-0.0	-0.1
	A 1200.00017533	+0.1	+0.1	A 1200.00019729	-0.1	-0.1
	A 1200.00021677	+0.1	-0.0	A 1200.00023437	-0.1	-0.2
	A 1200.00018589	+0.0	+0.0			
92	A 1200.00014930	-0.2	+0.3	A 1200.00011557	+0.1	-0.2
	A 1200.00012057	+0.2	+0.1	A 1200.00017364	+0.0	-0.2
	A 1200.00018235	+0.2	-0.0	A 1200.00014936	-0.3	+0.1
93	A 1200.00014930	-0.3	+0.3	A 1200.00011557	+0.2	-0.2
	A 1200.00012057	+0.0	+0.0	A 1200.00017364	+0.1	-0.2
	A 1200.00018235	+0.1	-0.0	A 1200.00014936	-0.1	+0.1
94	A 1200.00009870	-0.2	-0.5	A 1200.00006184	+0.1	+0.1

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 1200.00005064	+0.2	+0.2	A 1200.00007662	-0.2	-0.3
	A 1200.00010470	-0.0	+0.0	A 1200.00011632	+0.5	+0.3
	A 1200.00010718	-0.3	+0.1			
95	A 1200.00009870	-0.1	-0.3	A 1200.00006184	-0.1	+0.1
	A 1200.00005064	+0.3	+0.0	A 1200.00007662	-0.5	-0.0
	A 1200.00010470	+0.3	-0.3	A 1200.00010718	+0.1	-0.0
	A 1200.00010845	-0.0	+0.5			
96	A 1200.20099960	+0.2	-0.0	A 1200.20104343	+0.1	+0.2
	A 1200.20105794	+0.5	-0.2	A 1200.20104489	-0.2	-0.2
	A 1200.20100143	+0.0	+0.0	A 1200.20103516	-0.4	-0.1
	A 1200.20105497	-0.2	+0.3			
97	A 1200.20099960	+0.1	+0.0	A 1200.20104343	+0.3	+0.2
	A 1200.20105794	+0.4	-0.2	A 1200.20104489	-0.5	+0.1
	A 1200.20100143	+0.1	-0.0	A 1200.20103516	-0.5	-0.1
	A 1200.20105497	+0.1	+0.0			
98	A 1050.01066679	+0.6	-0.4	A 1050.01068940	-0.1	+0.1
	A 1050.01068989	-0.3	-0.1	A 1050.01068455	+0.7	+0.0
	A 1050.01067945	-0.3	+0.2	A 1050.01067288	-0.2	-0.1
	A 1050.01066889	+0.1	-0.1	A 1050.01066282	+0.0	+0.1
	A 1050.01066093	-0.5	+0.3			
99	A 1050.01066679	+0.5	-0.5	A 1050.01068940	-0.1	+0.1
	A 1050.01068989	-0.3	+0.2	A 1050.01068455	+0.6	-0.1
	A 1050.01067945	-0.3	+0.1	A 1050.01067288	+0.0	-0.4
	A 1050.01066889	+0.1	+0.0	A 1050.01066282	-0.1	+0.2
	A 1050.01066093	-0.4	+0.4			
100	A 1125.00548500	+0.0	+0.1	A 1125.00547676	+0.1	-0.0
	A 1125.00544838	-0.4	+0.1	A 1125.00546081	-0.3	+0.2
	A 1125.00548691	+0.0	-0.0	A 1125.00550053	-0.2	-0.0
	A 1125.00545558	+0.6	-0.3	A 1125.00549294	+0.1	-0.0
101	A 1125.00548500	+0.0	+0.1	A 1125.00547676	+0.2	-0.1
	A 1125.00544838	-0.4	+0.1	A 1125.00546081	-0.3	+0.1
	A 1125.00548691	-0.0	-0.1	A 1125.00550053	-0.3	+0.0
	A 1125.00545558	+0.6	-0.3	A 1125.00549294	+0.2	+0.0
102	A 1125.19946183	-0.2	+0.0	A 1125.19949535	+0.1	-0.0
	A 1050.20797674	-0.2	+0.0	A 1050.20796783	+0.2	-0.0
	A 1050.20795597	-0.1	+0.3	A 1050.20795368	-0.0	-0.5
	A 1125.19942827	+0.0	+0.2	A 1125.19944797	+0.2	+0.1
103	A 1125.19946183	-0.2	+0.0	A 1125.19949535	+0.1	+0.1
	A 1050.20800441	+0.1	+0.2	A 1050.20797674	-0.5	-0.6
	A 1050.20796783	+0.1	-0.2	A 1050.20795597	+0.0	+0.5
	A 1050.20795368	+0.1	-0.2	A 1125.19942827	+0.1	+0.3
	A 1125.19944797	+0.1	-0.1			
104	A 1125.19928709	+0.1	-0.6	A 1125.19930983	-0.1	+0.4
	A 1050.20784725	+0.0	+0.1	A 1050.20784583	-0.0	-0.1
	A 1050.20780600	+0.2	+0.1	A 1050.20780165	-0.2	-0.1
	A 1125.19924603	-0.2	+0.2	A 1125.19925289	+0.2	+0.0

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
105	A 1125.19928709	-0.1	-0.5	A 1125.19930983	+0.0	+0.4
	A 1050.20784725	+0.2	+0.0	A 1050.20784583	-0.1	-0.1
	A 1050.20780600	+0.1	+0.1	A 1050.20780130	-0.2	-0.1
	A 1125.19925289	+0.1	+0.3			
106	A 1050.20755134	-0.3	+0.3	A 1050.20754675	+0.4	-0.2
	A 1050.20754725	+0.4	-0.2	A 1050.20757743	+0.3	+0.0
	A 1050.20757905	+0.0	-0.1	A 1050.20757050	+0.0	+0.0
	A 1050.20756584	-0.4	+0.1	A 1050.20754565	-0.3	+0.2
	A 1050.20755486	-0.2	-0.1			
107	A 1050.20753448	-0.0	-0.2	A 1050.20753895	+0.2	+0.4
	A 1050.20753456	-0.2	-0.3	A 1050.20754565	+0.3	+0.1
	A 1050.20756063	-0.2	+0.1	A 1050.20758717	+0.6	-0.1
	A 1050.20757899	-0.4	+0.0	A 1050.20757743	-0.3	-0.1
108	A 1050.20678588	+0.3	+0.3	A 1125.19819542	+0.0	-0.2
	A 1050.20682233	+0.2	+0.1	A 1050.20682049	-0.4	-0.2
	A 1050.20682299	-0.1	-0.1	A 1050.20680598	+0.3	+0.1
	A 1050.20677846	+0.1	+0.2	A 1050.20677199	-0.2	-0.4
	A 1050.20677455	-0.2	+0.0			
109	A 1050.20678588	+0.3	+0.3	A 1125.19819542	+0.0	-0.2
	A 1050.20682233	+0.2	+0.1	A 1050.20682049	-0.4	-0.2
	A 1050.20682299	-0.0	-0.0	A 1050.20680598	+0.2	+0.1
	A 1050.20677846	+0.1	+0.3	A 1050.20677199	-0.2	-0.4
	A 1050.20677455	-0.2	+0.0			

4. List of collaborators

Name	Exposures	Measurements	Reductions
G. Cervák	10	10	-
M. Husárik	35	35	-
M. Jakubík	3	3	-
M. Kamenický	12	12	-
L. Neslušan	1	1	109
P. Rychtarčík	48	48	-

Acknowledgements. This work was supported, in part, by VEGA - the Slovak Grant Agency for Science (grant No. 1023).

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