

# Astrometry of minor planets made at the Skalnaté Pleso Observatory in the year 2003

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**Abstract.** The paper presents the results of position determinations of minor planets carried out at the Skalnaté Pleso Observatory in the year 2003. 108 CCD observations of 16 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 2003.

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 108 accurate positions of 16 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> <sub>2000</sub>	<i>Decl.</i> <sub>2000</sub>	d $\alpha$	d $\delta$
1	73	2003 Oct.	24.84429	23 49 13.93	-01 01 06.8	0.3	0.3
2	73	2003 Oct.	24.86345	23 49 13.35	-01 01 09.3	0.3	0.3
3	14593	2003 Jan.	20.81242	07 51 39.99	+30 36 28.7	0.2	0.1
4	14593	2003 Jan.	20.81769	07 51 39.57	+30 36 28.7	0.2	0.2
5	14593	2003 Jan.	25.81531	07 46 13.49	+30 54 20.6	0.2	0.3
6	14593	2003 Jan.	25.83708	07 46 12.07	+30 54 24.6	0.2	0.3
7	14593	2003 Jan.	26.84911	07 45 08.69	+30 57 20.4	0.2	0.1
8	14593	2003 Jan.	26.86235	07 45 07.79	+30 57 23.0	0.3	0.1
9	24031	2003 Sep.	18.85324	23 31 55.87	+03 50 11.3	0.0	0.1
10	24031	2003 Sep.	18.86407	23 31 55.08	+03 50 13.7	0.0	0.1
12	24031	2003 Sep.	19.79985	23 30 49.79	+03 53 20.9	0.0	0.3
12	24031	2003 Sep.	19.81010	23 30 49.07	+03 53 22.9	0.1	0.1
13	24031	2003 Sep.	20.81845	23 29 38.55	+03 56 39.2	0.2	0.2
14	24031	2003 Sep.	20.82946	23 29 37.75	+03 56 41.4	0.3	0.2
15	24031	2003 Sep.	21.86346	23 28 25.64	+03 59 59.0	0.2	0.2
16	24031	2003 Sep.	21.87437	23 28 24.86	+04 00 01.0	0.2	0.3
17	24031	2003 Oct.	25.76583	23 01 17.22	+05 33 29.1	0.2	0.1
18	24031	2003 Oct.	25.77741	23 01 17.00	+05 33 30.8	0.2	0.2
19	25529	2003 Sep.	18.87110	00 17 11.71	-00 53 43.5	0.1	0.3
20	25529	2003 Sep.	18.88032	00 17 11.22	-00 53 43.8	0.2	0.1
21	25529	2003 Sep.	19.81516	00 16 22.44	-00 54 43.3	0.2	0.3
22	25529	2003 Sep.	19.82152	00 16 22.11	-00 54 43.7	0.2	0.2
23	25529	2003 Sep.	21.90591	00 14 30.97	-00 56 55.6	0.2	0.3
24	25529	2003 Sep.	21.91693	00 14 30.35	-00 56 56.4	0.1	0.3
25	25529	2003 Sep.	26.93971	00 09 55.18	-01 02 07.2	0.3	0.2
26	25529	2003 Sep.	26.95023	00 09 54.54	-01 02 07.7	0.1	0.1
27	25529	2003 Oct.	24.84429	23 48 45.10	-00 56 35.9	0.3	0.3
28	25529	2003 Oct.	24.86345	23 48 44.58	-00 56 34.7	0.2	0.2
29	25529	2003 Nov.	20.72668	23 48 24.76	+00 51 13.9	0.2	0.3
30	25529	2003 Nov.	20.73513	23 48 25.05	+00 51 16.4	0.2	0.3
31	25529	2003 Nov.	21.78527	23 48 52.36	+00 57 40.9	0.2	0.3
32	25529	2003 Nov.	21.79454	23 48 52.64	+00 57 44.3	0.2	0.3
33	25529	2003 Nov.	22.72193	23 49 18.54	+01 03 31.7	0.2	0.3
34	25529	2003 Nov.	22.72862	23 49 18.71	+01 03 34.2	0.2	0.1
35	25529	2003 Dec.	18.76781	00 10 45.34	+04 29 48.1	0.2	0.3
36	25529	2003 Dec.	18.78383	00 10 46.39	+04 29 56.9	0.1	0.2
37	26469	2003 Oct.	19.95558	02 06 24.54	-01 51 38.8	0.1	0.0
38	26469	2003 Oct.	19.96992	02 06 23.66	-01 51 41.5	0.1	0.0
39	26469	2003 Oct.	24.91694	02 01 09.30	-01 57 39.9	0.1	0.2
40	26469	2003 Oct.	24.92839	02 01 08.55	-01 57 40.2	0.1	0.2
41	30265	2003 Feb.	24.82911	08 19 29.80	+26 41 24.1	0.3	0.1
42	30265	2003 Feb.	24.87440	08 19 28.29	+26 41 24.3	0.2	0.1
43	35107	2003 Feb.	24.87440	08 19 24.48	+26 43 45.9	0.2	0.1
44	35107	2003 Feb.	25.86506	08 18 37.89	+27 14 23.4	0.3	0.1
45	35107	2003 Feb.	25.87353	08 18 37.44	+27 14 38.8	0.3	0.2
46	66959	2003 Dec.	18.79493	04 06 38.97	+16 41 44.7	0.3	0.3

N	MP	Date	U.T.		<i>R.A.</i> <sub>2000</sub>	<i>Decl.</i> <sub>2000</sub>	d $\alpha$	d $\delta$
47	66959	2003	Dec.	18.80046	04 06 38.84	+16 42 02.3	0.2	0.3
48	66959	2003	Dec.	19.78920	04 06 24.95	+17 33 45.0	0.2	0.3
49	66959	2003	Dec.	19.79454	04 06 24.85	+17 34 01.6	0.3	0.3
50	(2001 XU10)	2003	Jul.	25.91924	02 57 51.67	+52 11 39.5	0.1	0.1
51	(2001 XU10)	2003	Jul.	25.92191	02 57 52.36	+52 11 49.2	0.2	0.2
52	(2001 XU10)	2003	Jul.	27.92435	03 06 14.38	+54 08 18.5	0.1	0.2
53	(2001 XU10)	2003	Jul.	27.93056	03 06 15.87	+54 08 39.1	0.1	0.3
54	(2001 XU10)	2003	Aug.	5.91694	03 49 34.84	+61 33 52.4	0.2	0.0
55	(2001 XU10)	2003	Aug.	5.93330	03 49 40.22	+61 34 33.6	0.1	0.3
56	(2001 XU10)	2003	Oct.	25.90023	10 42 59.91	+73 05 16.0	0.1	0.2
57	(2001 XU10)	2003	Oct.	25.91203	10 43 01.13	+73 05 20.5	0.1	0.2
58	(2002 AL14)	2003	Feb.	24.90144	13 21 24.18	+55 42 03.3	0.0	0.1
59	(2002 AL14)	2003	Feb.	24.90987	13 21 24.28	+55 42 37.0	0.2	0.2
60	(2002 AL14)	2003	Feb.	28.00134	13 22 47.03	+58 49 10.8	0.2	0.1
61	(2002 AL14)	2003	Feb.	28.00795	13 22 47.01	+58 49 33.4	0.2	0.1
62	(2002 CE10)	2003	Aug.	24.93335	23 36 14.16	+24 26 05.2	0.3	0.1
63	(2002 CE10)	2003	Aug.	24.94686	23 36 10.33	+24 25 32.6	0.3	0.1
64	(2002 CE10)	2003	Aug.	28.87222	23 17 29.29	+21 35 56.0	0.3	0.1
65	(2002 CE10)	2003	Aug.	28.87470	23 17 28.60	+21 35 48.6	0.3	0.1
66	(2002 CE10)	2003	Sep.	19.77929	21 42 02.74	+02 25 04.3	0.1	0.2
67	(2002 CE10)	2003	Sep.	19.78819	21 42 00.88	+02 24 37.7	0.1	0.2
68	(2002 CE10)	2003	Sep.	19.79243	21 41 59.98	+02 24 25.2	0.1	0.1
69	(2002 RP120)	2003	Jan.	1.72875	23 24 07.54	+22 33 53.6	0.3	0.1
70	(2002 RP120)	2003	Jan.	1.74184	23 24 07.11	+22 33 54.9	0.3	0.1
71	(2002 RP120)	2003	Jan.	6.74962	23 21 43.27	+22 44 42.1	0.0	0.2
72	(2002 RP120)	2003	Jan.	17.77302	23 18 48.29	+23 21 13.2	0.1	0.2
73	(2002 RP120)	2003	Jan.	17.78414	23 18 48.21	+23 21 17.3	0.2	0.2
74	(2002 RP120)	2003	Jan.	19.73509	23 18 33.68	+23 29 26.8	0.2	0.1
75	(2002 RP120)	2003	Jan.	19.73888	23 18 33.56	+23 29 27.9	0.2	0.1
76	(2002 RP120)	2003	Jan.	25.78715	23 18 14.05	+23 57 56.3	0.2	0.1
77	(2002 RP120)	2003	Jan.	25.79897	23 18 14.02	+23 57 59.7	0.1	0.1
78	(2003 AJ73)	2003	Feb.	24.88432	11 44 01.39	+29 49 04.3	0.3	0.3
79	(2003 AJ73)	2003	Feb.	24.89471	11 44 01.26	+29 48 45.3	0.3	0.2
80	(2003 AJ73)	2003	Feb.	25.93197	11 43 55.05	+29 15 50.7	0.3	0.2
81	(2003 AJ73)	2003	Feb.	25.94165	11 43 54.87	+29 15 32.1	0.1	0.2
82	(2003 AJ73)	2003	Feb.	26.85910	11 43 47.84	+28 45 02.8	0.2	0.2
83	(2003 AJ73)	2003	Feb.	26.86472	11 43 47.71	+28 44 51.6	0.2	0.2
84	(2003 AJ73)	2003	Feb.	28.01351	11 43 32.93	+28 05 04.3	0.2	0.2
85	(2003 AJ73)	2003	Feb.	28.02495	11 43 32.64	+28 04 39.9	0.2	0.3
86	(2003 AJ73)	2003	Mar.	27.85100	11 31 18.58	+03 51 28.6	0.3	0.3
87	(2003 AJ73)	2003	Mar.	27.86123	11 31 18.27	+03 50 52.3	0.3	0.3
88	(2003 AJ73)	2003	Mar.	30.83432	11 30 38.25	+00 56 55.2	0.2	0.3
89	(2003 AJ73)	2003	Mar.	30.84175	11 30 38.07	+00 56 29.9	0.3	0.3
90	(2003 KP2)	2003	Jun.	28.95851	18 19 04.60	+58 40 01.1	0.1	0.2
91	(2003 KP2)	2003	Jun.	28.97182	18 19 02.97	+58 40 16.5	0.3	0.3
92	(2003 KP2)	2003	Jun.	29.93799	18 17 11.71	+58 58 42.8	0.0	0.1

N	MP	Date U.T.		<i>R.A.</i> <sub>2000</sub>	<i>Decl.</i> <sub>2000</sub>	$d\alpha$	$d\delta$
93	(2003 KP2)	2003 Jun.	29.97206	18 17 07.54	+58 59 20.8	0.1	0.2
94	(2003 KP2)	2003 Jul.	27.91397	17 07 26.89	+64 04 00.9	0.0	0.0
95	(2003 KP2)	2003 Aug.	3.96052	16 48 40.81	+64 08 56.8	0.1	0.1
96	(2003 KP2)	2003 Aug.	3.97978	16 48 37.81	+64 08 54.4	0.1	0.1
97	(2003 KP2)	2003 Aug.	7.86016	16 38 48.29	+64 00 39.5	0.2	0.2
98	(2003 KP2)	2003 Aug.	7.86983	16 38 46.78	+64 00 37.6	0.2	0.2
99	(2003 KP2)	2003 Aug.	16.80528	16 17 44.17	+63 14 41.9	0.2	0.2
100	(2003 KP2)	2003 Aug.	16.81170	16 17 43.23	+63 14 38.7	0.2	0.2
101	(2003 KP2)	2003 Aug.	17.82703	16 15 27.25	+63 07 07.9	0.3	0.3
102	(2003 KP2)	2003 Aug.	17.81890	16 15 28.30	+63 07 12.1	0.2	0.3
103	(2003 KP2)	2003 Aug.	23.87167	16 02 17.50	+62 12 25.5	0.1	0.1
104	(2003 KP2)	2003 Aug.	23.87759	16 02 16.71	+62 12 21.7	0.1	0.1
105	(2003 SB85)	2003 Oct.	25.94076	04 37 21.31	+31 58 10.4	0.2	0.1
106	(2003 SB85)	2003 Oct.	25.94873	04 37 21.70	+31 58 28.0	0.1	0.1
107	(2003 WT42)	2003 Dec.	19.90444	03 51 22.25	+31 53 48.2	0.1	0.1
108	(2003 WT42)	2003 Dec.	19.91674	03 51 21.97	+31 53 47.8	0.1	0.1

### 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 0825.20030326	-0.1	-0.2	A 0825.20030609	+0.0	+0.3
	A 0825.20031133	+0.2	-0.1	A 0825.20031504	-0.1	-0.1
	A 0825.20031724	+0.3	-0.2	A 0825.20030043	+0.6	+0.4
	A 0825.20030607	-0.9	+0.4	A 0825.20030545	+0.0	-0.7
	A 0825.20032202	+0.2	+0.2	A 0825.20032537	-0.2	+0.1
2	A 0825.20030326	-0.1	-0.3	A 0825.20030609	+0.1	+0.3
	A 0825.20031133	+0.2	-0.1	A 0825.20031504	-0.4	-0.0
	A 0825.20031724	+0.3	-0.2	A 0825.20030043	+0.6	+0.4
	A 0825.20030607	-0.9	+0.5	A 0825.20030545	+0.1	-0.8
	A 0825.20032202	+0.3	+0.2	A 0825.20032537	-0.1	+0.1

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
3	A 1200.05849758	+0.1	+0.1	A 1200.05846646	+0.1	+0.0
	A 1200.05844803	-0.5	-0.1	A 1200.05845834	+0.5	+0.0
	A 1200.05849311	+0.0	+0.2	A 1200.05850616	-0.0	-0.1
	A 1200.05851157	-0.2	-0.2			
4	A 1200.05849758	-0.0	-0.0	A 1200.05844803	-0.2	-0.2
	A 1200.05849311	-0.1	+0.4	A 1200.05850616	-0.2	-0.3
	A 1200.05851157	-0.0	-0.0	A 1200.05846658	+0.2	+0.1
	A 1200.05848204	+0.4	+0.1			
5	A 1200.05809787	-0.1	+0.0	A 1200.05810751	+0.1	-0.1
	A 1200.05810550	+0.2	+0.5	A 1200.05810495	+0.0	-0.0
	A 1200.05808366	+0.0	-0.5	A 1200.05806166	-0.3	+0.3
	A 1200.05802570	+0.2	-0.0	A 1200.05803744	+0.3	+0.3
	A 1200.05804752	-0.5	-0.9	A 1200.05802071	+0.1	+0.4
6	A 1200.05809787	-0.2	+0.1	A 1200.05810751	+0.2	-0.1
	A 1200.05810550	+0.1	+0.5	A 1200.05810495	+0.1	+0.0
	A 1200.05808366	-0.1	-0.4	A 1200.05806166	-0.3	+0.3
	A 1200.05802570	+0.2	+0.1	A 1200.05803744	+0.3	+0.2
	A 1200.05804752	-0.5	-1.0	A 1200.05802071	+0.1	+0.4
7	A 1200.05800104	+0.6	-0.1	A 1200.05801410	-0.2	+0.2
	A 1200.05801373	+0.0	-0.2	A 1200.05796993	+0.2	-0.1
	A 1200.05796260	+0.1	+0.0	A 1200.05798744	-0.4	+0.1
	A 1200.05798905	-0.2	-0.0	A 1200.05798089	-0.2	+0.0
8	A 1200.05800104	+0.7	-0.3	A 1200.05801410	-0.1	+0.2
	A 1200.05801373	-0.0	-0.1	A 1200.05796993	+0.2	+0.0
	A 1200.05796260	+0.1	-0.1	A 1200.05798744	-0.4	+0.1
	A 1200.05798905	-0.2	+0.1	A 1200.05798089	-0.2	+0.0
9	A 0900.20428082	+0.0	-0.2	A 0900.20427098	-0.0	+0.1
	A 0900.20427572	-0.0	+0.1	A 0900.20429492	+0.0	-0.0
	A 0900.20427108	+0.0	-0.1	A 0900.20428702	-0.0	+0.1
10	A 0900.20428082	-0.1	-0.2	A 0900.20427098	+0.1	+0.1
	A 0900.20427572	-0.0	+0.1	A 0900.20429492	+0.0	-0.0
	A 0900.20427108	+0.0	-0.1	A 0900.20428702	+0.1	+0.1
11	A 0900.20424451	+0.0	-0.2	A 0900.20423310	-0.1	-0.3
	A 0900.20423023	+0.0	+0.2	A 0900.20424011	+0.0	-0.3
	A 0900.20423137	+0.1	+0.2	A 0900.20425051	-0.0	+0.3
12	A 0900.20424451	-0.1	+0.1	A 0900.20423310	+0.1	-0.3
	A 0900.20423023	+0.1	-0.0	A 0900.20424011	-0.1	+0.1
	A 0900.20423137	-0.0	+0.2	A 0900.20425051	+0.1	-0.1
	A 0900.20420355	+0.1	+0.2	A 0900.20419852	-0.0	-0.4
13	A 0900.20418018	+0.4	+0.1	A 0900.20417622	-0.6	-0.0
	A 0900.20417576	+0.2	+0.1	A 0900.20419694	+0.1	-0.1
	A 0900.20420917	-0.2	+0.2			
	A 0900.20420355	+0.2	+0.2	A 0900.20419852	+0.0	-0.4
14	A 0900.20418018	+0.4	+0.1	A 0900.20417622	-0.6	-0.1
	A 0900.20417576	+0.2	+0.1	A 0900.20419694	+0.2	-0.1
	A 0900.20420917	-0.4	+0.2			

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
15	A 0900.20414826	-0.1	+0.1	A 0900.20412896	+0.1	-0.1
	A 0900.20413940	-0.1	+0.6	A 0900.20414338	+0.3	-0.9
	A 0900.20414704	-0.6	+0.3	A 0900.20414795	+0.1	-0.0
	A 0900.20415733	+0.1	-0.0	A 0900.20414992	+0.3	+0.1
	A 0900.20415393	-0.1	-0.1			
16	A 0900.20414826	+0.2	+0.2	A 0900.20412896	-0.0	-0.1
	A 0900.20413940	-0.1	+0.5	A 0900.20414338	+0.4	-0.9
	A 0900.20414704	-0.7	+0.4	A 0900.20414795	-0.0	+0.0
	A 0900.20415733	-0.1	-0.1	A 0900.20414992	+0.4	+0.2
	A 0900.20415393	-0.1	-0.1			
17	A 0900.20296718	-0.1	+0.1	A 0900.20295639	+0.0	-0.2
	A 0900.20294286	+0.2	+0.2	A 0900.20292904	-0.5	-0.0
	A 0900.20294035	+0.6	+0.1	A 0900.20295307	-0.1	-0.2
	A 0900.20296508	-0.1	+0.1	A 0900.20296331	-0.0	+0.1
	A 0900.20296260	-0.0	-0.1			
18	A 0900.20296718	-0.0	+0.2	A 0900.20295639	-0.1	-0.2
	A 0900.20294286	+0.0	+0.1	A 0900.20292904	+0.0	+0.1
	A 0900.20295307	-0.1	-0.2	A 0900.20296508	-0.2	+0.0
	A 0900.20296331	-0.3	+0.3	A 0900.20296260	+0.5	-0.3
	A 0900.20296348	+0.2	+0.0			
19	A 0825.00072248	-0.3	+0.7	A 0825.00069297	-0.1	+0.2
	A 0825.00070563	+0.0	-0.1	A 0825.00072617	-0.0	-0.1
	A 0825.00071750	+0.1	-0.2	A 0825.00071751	+0.2	-0.5
20	A 0825.00069297	-0.2	+0.1	A 0825.00070563	+0.1	+0.0
	A 0825.00072617	+0.1	+0.3	A 0825.00071750	-0.0	-0.2
	A 0825.00071751	+0.3	-0.1	A 0825.00073211	-0.3	-0.1
21	A 0825.00069892	-0.1	+0.2	A 0825.00068073	+0.2	-0.2
	A 0825.00067191	+0.2	-0.1	A 0825.00066070	-0.2	+0.2
	A 0825.00065843	-0.0	-0.0	A 0825.00069752	-0.3	-0.6
	A 0825.00069414	+0.3	+0.5			
22	A 0825.00069892	-0.1	+0.1	A 0825.00068073	+0.2	-0.1
	A 0825.00067191	+0.1	-0.0	A 0825.00066070	-0.1	+0.0
	A 0825.00065843	-0.0	-0.0	A 0825.00069752	-0.3	-0.5
	A 0825.00069414	+0.3	+0.5			
23	A 0825.00060108	-0.0	-0.3	A 0825.00059748	+0.2	+0.0
	A 0825.00058280	+0.1	-0.2	A 0825.00058725	-0.1	+0.2
	A 0825.00059439	+0.4	+0.1	A 0825.00060401	+0.2	-0.7
	A 0825.00061335	-0.1	+0.4	A 0825.00059354	-0.6	+0.5
24	A 0825.00060108	-0.1	-0.3	A 0825.00059748	+0.1	+0.1
	A 0825.00058280	-0.1	-0.2	A 0825.00058725	-0.1	+0.2
	A 0825.00059439	+0.2	-0.0	A 0825.00060401	+0.2	-0.6
	A 0825.00061335	-0.2	+0.4	A 0825.00059354	+0.1	+0.5
25	A 0825.00040079	+0.0	+0.2	A 0825.00042048	-0.5	-0.4
	A 0825.00042005	+0.0	+0.7	A 0825.00043405	+0.7	-0.1
	A 0825.00042665	-0.6	-0.2	A 0825.00041168	+0.2	-0.0
	A 0825.00039480	-0.2	-0.3	A 0825.00039977	+0.4	+0.1

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
26	A 0825.00040079	-0.1	+0.1	A 0825.00043405	-0.0	-0.1
	A 0825.00042665	+0.0	+0.0	A 0825.00041168	+0.0	+0.0
	A 0825.00039480	-0.1	-0.2	A 0825.00039977	+0.2	+0.1
27	A 0825.20030043	+0.8	+0.4	A 0825.20030545	+0.3	-0.7
	A 0825.20030607	-0.7	+0.4	A 0825.20031133	+0.3	-0.1
	A 0825.20030326	-0.0	-0.3	A 0825.20030609	+0.1	+0.2
	A 0825.20029348	-0.5	+0.0	A 0825.20031638	-0.1	+0.2
28	A 0825.20031504	-0.1	-0.1			
	A 0825.20030545	+0.6	-0.6	A 0825.20030607	-0.5	+0.6
	A 0825.20031133	+0.3	-0.1	A 0825.20030326	+0.0	-0.3
	A 0825.20030609	+0.1	+0.2	A 0825.20029348	-0.1	+0.1
	A 0825.20031638	-0.1	+0.1	A 0825.20031504	-0.3	+0.1
29	A 0825.20031724	+0.1	-0.1			
	A 0900.20497480	-0.1	-0.0	A 0900.20496442	+0.1	+0.1
	A 0900.20494902	-0.0	+0.0	A 0900.20494073	-0.1	-0.1
	A 0900.20495523	+0.4	+0.5	A 0900.20496537	-0.6	-0.8
30	A 0900.20497451	+0.2	+0.3			
	A 0900.20497480	+0.0	-0.0	A 0900.20496442	+0.1	-0.0
	A 0900.20494902	-0.3	-0.3	A 0900.20494073	+0.5	-0.6
	A 0900.20496537	+0.0	-0.0	A 0900.20494701	+0.0	+0.5
31	A 0900.20494159	-0.4	+0.5			
	A 0900.20497451	+0.4	+0.1	A 0900.20496789	-0.4	+0.5
	A 0900.20497498	+0.4	-0.5	A 0900.20499255	-0.2	+0.3
32	A 0900.20499493	-0.0	-0.2	A 0900.20496537	-0.1	-0.2
	A 0900.20496789	-0.5	+0.3	A 0900.20497498	+0.2	-0.5
	A 0900.20499255	-0.1	+0.3	A 0900.20499493	+0.1	-0.1
	A 0900.20496537	-0.1	-0.3	A 0900.20495348	+0.3	+0.2
33	A 0900.20502060	-0.2	-0.4	A 0900.20501875	+0.2	+0.2
	A 0900.20500200	+0.3	+0.2	A 0900.20499999	-0.3	-0.3
	A 0900.20498567	-0.1	+0.2	A 0900.20500254	+0.3	-0.5
	A 0900.20501212	-0.2	+0.5			
34	A 0900.20502060	-0.3	-0.2	A 0900.20501875	+0.2	+0.1
	A 0900.20500200	+0.3	+0.2	A 0900.20499999	-0.3	-0.1
	A 0900.20498567	-0.1	-0.0	A 0900.20500254	+0.1	+0.1
35	A 0900.00042188	-0.3	+0.2	A 0900.00042115	-0.0	-0.2
	A 0900.00043047	+0.2	-0.4	A 0900.00042953	+0.2	+0.1
	A 0900.00043772	-0.2	+0.1	A 0900.00043884	-0.0	+0.1
	A 0900.00041107	-0.2	-0.4	A 0900.00041445	+0.4	+0.6
36	A 0900.00042188	-0.1	+0.1	A 0900.00042115	-0.1	-0.1
	A 0900.00043047	+0.1	-0.3	A 0900.00042953	+0.2	+0.1
	A 0900.00043772	-0.1	+0.0	A 0900.00043884	-0.0	+0.1
	A 0900.00041107	-0.2	-0.4	A 0900.00041445	+0.3	+0.6
37	A 0825.00489716	-0.1	-0.1	A 0825.00491174	-0.1	+0.0
	A 0825.00487891	-0.1	+0.1	A 0825.00487080	+0.0	-0.0
	A 0825.00489653	+0.2	+0.0	A 0825.00490617	+0.1	+0.0
38	A 0825.00489716	-0.1	-0.0	A 0825.00491174	-0.1	-0.0
	A 0825.00487891	-0.1	-0.0	A 0825.00487080	-0.0	-0.0

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 0825.00489653	+0.3	+0.1	A 0825.00490617	+0.1	+0.0
39	A 0825.00467147	+0.0	-0.0	A 0825.00467318	+0.1	+0.6
	A 0825.00466685	-0.1	+0.1	A 0825.00465635	+0.1	-0.4
	A 0825.00465241	-0.2	+0.2	A 0825.00465451	+0.1	-0.1
	A 0825.00468035	-0.0	-0.4	A 0825.00467206	-0.1	+0.0
40	A 0825.00467147	+0.0	+0.1	A 0825.00467318	+0.1	+0.6
	A 0825.00466685	-0.1	+0.1	A 0825.00465635	+0.1	-0.4
	A 0825.00465241	-0.1	+0.2	A 0825.00465451	+0.1	-0.1
	A 0825.00468035	-0.0	-0.4	A 0825.00467206	-0.0	-0.1
41	A 1125.05585478	+0.0	-0.1	A 1125.05585892	+0.3	-0.1
	A 1125.05587530	-0.4	+0.2	A 1125.05587450	-0.2	+0.0
	A 1125.05586553	+0.3	-0.2	A 1125.05583373	+0.5	+0.1
	A 1125.05581758	-0.3	+0.2	A 1125.05581273	-0.0	-0.3
	A 1125.05581425	+0.2	+0.1	A 1125.05580830	-0.4	+0.1
	A 1125.05582324	+0.2	-0.0			
42	A 1125.05585478	-0.0	-0.1	A 1125.05585892	+0.2	-0.1
	A 1125.05587530	-0.2	+0.2	A 1125.05587450	-0.2	-0.1
	A 1125.05586553	+0.1	-0.1	A 1125.05583373	+0.3	+0.1
	A 1125.05581758	-0.4	+0.1	A 1125.05581273	-0.1	-0.3
	A 1125.05581425	+0.0	+0.1	A 1125.05582324	-0.3	+0.1
	A 1125.05581788	+0.5	+0.1			
43	A 1125.05584364	+0.1	-0.0	A 1125.05586085	-0.1	+0.2
	A 1125.05585972	-0.1	+0.0	A 1125.05583607	+0.2	-0.2
	A 1125.05583086	-0.3	+0.3	A 1125.05582642	-0.2	-0.1
	A 1125.05583051	-0.3	-0.1	A 1125.05581788	+0.4	+0.1
	A 1125.05586626	+0.3	-0.3	A 1125.05587120	-0.1	+0.1
44	A 1125.05577886	+0.3	-0.0	A 1125.05579842	-0.3	+0.0
	A 1125.05582489	+0.0	+0.0	A 1125.05583207	+0.6	+0.1
	A 1125.05582613	-0.5	+0.2	A 1125.05580681	+0.1	-0.3
	A 1125.05580351	-0.3	-0.3	A 1125.05579439	-0.0	-0.0
	A 1125.05577186	+0.0	+0.2	A 1125.05577205	+0.7	+0.2
	A 1125.05577463	-0.7	-0.2			
45	A 1125.05577886	+0.2	+0.1	A 1125.05579842	-0.4	-0.1
	A 1125.05582489	+0.1	+0.1	A 1125.05583207	+0.5	-0.5
	A 1125.05582613	-0.4	+0.6	A 1125.05580681	+0.2	-0.2
	A 1125.05580351	-0.2	-0.2	A 1125.05579439	-0.1	+0.1
	A 1125.05577186	-0.1	+0.0	A 1125.05577205	+0.8	-0.1
	A 1125.05577463	-0.6	-0.0			
46	A 1050.01142276	+0.5	+0.2	A 1050.01144430	+0.1	-0.5
	A 1050.01143282	-0.3	+0.1	A 1050.01143095	-0.5	+0.5
	A 1050.01143952	+0.2	+0.1	A 1050.01141169	+0.1	-0.0
	A 1050.01141133	-0.2	-0.4			
47	A 1050.01142276	+0.5	+0.2	A 1050.01144430	-0.0	-0.6
	A 1050.01143282	-0.3	+0.1	A 1050.01143095	-0.1	+0.8
	A 1050.01143952	+0.1	-0.0	A 1050.01141169	+0.1	-0.1
	A 1050.01141133	-0.2	-0.4			



N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
48	A 1050.01138859	+0.1	-0.3	A 1050.01139246	-0.1	+0.2
	A 1050.01139937	+0.2	-0.1	A 1050.01141430	-0.1	+0.6
	A 1050.01141672	-0.1	-0.4	A 1050.01143051	+0.3	-0.2
	A 1050.01141160	-0.5	+0.3	A 1050.01140680	+0.3	+0.0
49	A 1050.01138859	-0.0	-0.1	A 1050.01139937	+0.2	-0.2
	A 1050.01141430	-0.2	+0.8	A 1050.01141672	-0.1	-0.6
	A 1050.01143051	+0.3	-0.2	A 1050.01141160	-0.6	+0.3
	A 1050.01140680	+0.4	+0.0			
50	A 1350.02901574	+0.0	+0.1	A 1350.02902733	+0.0	+0.0
	A 1350.02904373	-0.2	+0.2	A 1350.02910300	+0.0	-0.1
	A 1350.02911479	+0.0	-0.1	A 1350.02906947	+0.3	-0.2
	A 1350.02913636	+0.2	-0.1	A 1350.02914309	-0.3	+0.2
	A 1350.02897562	-0.0	-0.2	A 1350.02891123	+0.1	-0.2
	A 1350.02891078	-0.2	+0.2			
51	A 1350.02901574	+0.2	-0.0	A 1350.02902733	+0.0	-0.0
	A 1350.02904373	-0.2	+0.4	A 1350.02910300	-0.0	-0.1
	A 1350.02911479	+0.0	-0.1	A 1350.02906947	+0.5	-0.2
	A 1350.02913636	+0.0	-0.1	A 1350.02914309	-0.3	+0.2
	A 1350.02897562	-0.3	-0.1	A 1350.02891123	+0.1	-0.2
	A 1350.02891078	-0.1	+0.2			
52	A 1425.04136422	+0.0	-0.1	A 1425.04135647	-0.0	-0.2
	A 1425.04132292	+0.2	-0.3	A 1425.04131651	-0.0	+0.9
	A 1425.04129954	-0.1	-0.2	A 1425.04125073	+0.0	-0.1
	A 1425.04125953	-0.0	-0.1	A 1425.04129888	+0.0	+0.1
53	A 1425.04136422	-0.0	-0.1	A 1425.04135647	-0.1	-0.2
	A 1425.04132292	+0.2	-0.3	A 1425.04131651	-0.1	+0.9
	A 1425.04129954	-0.1	-0.2	A 1425.04125073	+0.0	-0.1
	A 1425.04125953	-0.0	-0.1	A 1425.04129888	+0.0	+0.1
54	A 1500.03376696	+0.2	+0.0	A 1500.03382130	-0.4	-0.0
	A 1500.03397728	+0.2	+0.0	A 1500.03397384	-0.1	-0.0
	A 1500.03375647	+0.1	+0.0			
55	A 1500.03376696	+0.1	+0.2	A 1500.03379263	-0.0	-0.1
	A 1500.03388308	+0.2	-0.6	A 1500.03396358	-0.2	+0.8
	A 1500.03399784	-0.1	-0.1	A 1500.03391741	+0.2	-0.1
	A 1500.03386621	+0.1	-0.4	A 1500.03382160	-0.0	+0.1
	A 1500.03376204	+0.0	+0.1	A 1500.03375647	-0.2	+0.1
56	A 1575.03099934	-0.3	+0.1	A 1575.03099318	+0.2	+0.0
	A 1575.03098394	+0.0	-0.0	A 1575.03096194	-0.0	+0.2
	A 1575.03096489	-0.1	-0.3	A 1575.03096986	+0.0	+0.3
	A 1575.03098916	+0.2	-0.4	A 1575.03099626	+0.0	+0.1
57	A 1575.03099934	-0.4	+0.2	A 1575.03099318	+0.2	+0.0
	A 1575.03098394	+0.1	-0.1	A 1575.03096194	-0.1	+0.2
	A 1575.03096489	-0.1	-0.3	A 1575.03096986	+0.0	+0.3
	A 1575.03098916	+0.0	-0.3	A 1575.03099626	+0.2	+0.1
58	A 1425.07944627	+0.0	+0.1	A 1425.07944937	-0.0	-0.1
	A 1425.07941969	+0.0	+0.1	A 1425.07941724	-0.0	-0.1
	A 1425.07941439	-0.0	-0.0			

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
59	A 1425.07944699	+0.0	-0.3	A 1425.07944937	+0.2	+0.1
	A 1425.07944827	-0.0	-0.2	A 1425.07945627	+0.9	-0.0
	A 1425.07946298	-0.7	+0.1	A 1425.07942143	+0.0	-0.4
	A 1425.07942282	-0.3	+0.5	A 1425.07942247	-0.0	-0.3
	A 1425.07941022	+0.2	-0.1	A 1425.07943113	-0.1	+0.4
60	A 1425.07943425	-0.2	+0.3			
	A 1425.07946572	+0.0	+0.0	A 1425.07946024	+0.2	+0.1
	A 1425.07945911	+0.1	+0.0	A 1425.07949032	+0.4	+0.1
61	A 1425.07947742	-0.4	-0.2	A 1425.07947533	-0.2	-0.1
	A 1425.07946572	+0.1	+0.1	A 1425.07946024	+0.2	+0.0
	A 1425.07945911	+0.1	+0.0	A 1425.07949032	+0.4	+0.1
62	A 1425.07947742	-0.4	-0.2	A 1425.07947533	-0.3	-0.1
	A 1125.19873291	-0.2	+0.1	A 1125.19872423	+0.1	-0.1
	A 1125.19871378	-0.0	-0.0	A 1125.19870808	-0.1	+0.2
63	A 1125.19871601	-0.6	-0.0	A 1125.19872381	+0.5	-0.0
	A 1125.19870600	+0.3	-0.1			
	A 1125.19873291	-0.1	+0.1	A 1125.19872423	+0.1	-0.2
64	A 1125.19871378	-0.1	+0.1	A 1125.19870808	-0.1	+0.0
	A 1125.19871601	-0.7	-0.1	A 1125.19872381	+0.6	-0.0
	A 1125.19870600	+0.4	+0.0			
65	A 1050.20620735	+0.3	+0.1	A 1050.20624782	-0.0	+0.0
	A 1050.20624977	+0.2	+0.0	A 1050.20625457	-0.0	+0.0
	A 1050.20621088	+0.5	+0.1	A 1050.20621555	-0.9	-0.2
66	A 1050.20620735	+0.2	+0.1	A 1050.20625124	+0.1	+0.0
	A 1050.20625457	-0.0	-0.0	A 1050.20621088	+0.5	+0.2
	A 1050.20621555	-0.8	-0.3			
67	A 0900.19780358	+0.1	+0.3	A 0900.19773799	+0.1	+0.1
	A 0900.19774295	+0.0	-0.1	A 0900.19776833	-0.2	-0.0
	A 0900.19778345	+0.0	+0.2	A 0900.19779630	+0.1	-0.3
	A 0900.19777154	-0.2	-0.2			
68	A 0900.19780358	+0.1	+0.3	A 0900.19773799	+0.2	+0.2
	A 0900.19774295	+0.0	+0.0	A 0900.19776833	-0.2	-0.3
	A 0900.19778345	+0.0	+0.2	A 0900.19779630	+0.1	-0.2
	A 0900.19777154	-0.2	-0.3			
69	A 0900.19780358	+0.1	+0.1	A 0900.19773799	+0.2	+0.0
	A 0900.19774295	+0.1	-0.0	A 0900.19776833	-0.3	-0.0
	A 0900.19778345	+0.0	+0.1	A 0900.19779630	+0.2	-0.2
	A 0900.19777154	-0.2	-0.0			
70	A 1125.19794777	-0.3	+0.1	A 1125.19794815	+0.3	-0.2
	A 1125.19792319	+0.2	+0.0	A 1125.19792500	-0.3	+0.1
	A 1125.19791371	+0.1	-0.2	A 1125.19792002	-0.4	-0.2
	A 1125.19791397	+0.3	+0.3	A 1125.19795654	+0.1	+0.1
70	A 1125.19794777	-0.3	+0.1	A 1125.19794815	+0.3	-0.1
	A 1125.19792319	+0.3	+0.1	A 1125.19792500	-0.3	+0.1
	A 1125.19791371	+0.0	-0.2	A 1125.19792002	-0.5	-0.3
	A 1125.19791397	+0.4	+0.3	A 1125.19795654	+0.1	+0.1

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
71	A 1125.19779888	+0.1	-0.2	A 1125.19776475	-0.0	-0.2
	A 1125.19776354	-0.0	-0.1	A 1125.19777878	+0.0	+0.2
	A 1125.19779866	-0.0	-0.1	A 1125.19779639	-0.0	-0.2
	A 1125.19780341	-0.1	+0.3	A 1125.19777456	+0.0	+0.2
72	A 1125.19761492	-0.3	+0.0	A 1125.19761879	+0.1	+0.2
	A 1125.19759919	+0.3	-0.1	A 1125.19756325	-0.1	-0.0
	A 1125.19755667	+0.0	+0.3	A 1125.19757528	-0.0	-0.4
73	A 1125.19761492	-0.3	-0.0	A 1125.19761879	+0.1	+0.2
	A 1125.19759919	+0.3	-0.1	A 1125.19756325	-0.1	-0.0
	A 1125.19755667	+0.1	+0.3	A 1125.19757528	-0.1	-0.4
74	A 1125.19761199	+0.3	+0.2	A 1125.19754321	+0.1	+0.0
	A 1125.19754165	+0.0	-0.1	A 1125.19758752	-0.3	+0.2
	A 1125.19761180	+0.4	-0.0	A 1125.19761889	-0.4	-0.3
	A 1125.19756234	-0.1	-0.0			
75	A 1125.19761199	+0.3	+0.2	A 1125.19754321	+0.0	+0.0
	A 1125.19754165	+0.0	-0.1	A 1125.19758752	-0.1	+0.1
	A 1125.19761180	+0.3	+0.1	A 1125.19761889	-0.5	-0.3
	A 1125.19756234	-0.1	-0.0			
76	A 1125.19755268	-0.2	-0.3	A 1125.19758701	+0.1	+0.1
	A 1125.19758366	-0.1	-0.0	A 1125.19756341	+0.1	+0.0
	A 1125.19752580	-0.1	-0.2	A 1125.19752562	+0.1	+0.2
	A 1125.19751438	-0.2	+0.0	A 1125.19752800	+0.4	+0.2
	A 1125.19752019	-0.1	-0.0			
77	A 1125.19755268	-0.3	-0.2	A 1125.19758701	+0.1	+0.1
	A 1125.19758366	-0.0	-0.1	A 1125.19756341	-0.0	+0.1
	A 1125.19752580	-0.0	-0.2	A 1125.19752562	+0.0	+0.2
	A 1125.19751438	-0.1	+0.0	A 1125.19752800	+0.4	+0.1
	A 1125.19752019	-0.1	-0.0			
78	A 1125.06372062	-0.4	+0.1	A 1125.06372121	+0.2	+0.2
	A 1125.06372227	-0.1	+0.3	A 1125.06373129	+0.0	-0.4
	A 1125.06373397	+0.2	-0.3	A 1125.06372277	-0.3	+0.4
	A 1125.06371771	-0.5	+0.3	A 1125.06371289	+0.8	-0.4
	A 1125.06370663	-0.3	-0.1	A 1125.06370543	+0.2	-0.3
79	A 1125.06372062	-0.3	-0.0	A 1125.06372121	+0.3	+0.0
	A 1125.06372227	-0.1	+0.3	A 1125.06373129	+0.0	-0.2
	A 1125.06373397	+0.3	-0.3	A 1125.06372277	-0.3	+0.4
	A 1125.06371771	-0.5	+0.3	A 1125.06371289	+0.8	-0.5
	A 1125.06370663	-0.1	-0.2			
80	A 1125.06370985	+0.1	+0.2	A 1125.06374333	+0.0	+0.0
	A 1125.06374265	+0.4	+0.1	A 1125.06373901	-0.7	+0.0
	A 1125.06372974	+0.3	-0.4	A 1125.06372381	+0.4	+0.2
	A 1125.06371696	-0.3	+0.1	A 1125.06370471	+0.0	+0.2
	A 1125.06370769	-0.1	-0.5			
81	A 1125.06370985	+0.0	+0.2	A 1125.06374333	+0.0	+0.0
	A 1125.06374265	+0.3	+0.2	A 1125.06373901	-0.5	-0.1
	A 1125.06372974	+0.2	-0.5	A 1125.06372381	+0.1	+0.4

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
	A 1125.06371696	-0.1	+0.0	A 1125.06370471	+0.0	+0.2
	A 1125.06370769	-0.1	-0.5			
82	A 1125.06370469	-0.1	-0.1	A 1125.06370269	+0.3	+0.1
	A 1125.06370387	-0.1	+0.2	A 1125.06371013	-0.2	+0.0
	A 1125.06372388	+0.2	-0.3	A 1125.06373469	-0.3	+0.5
	A 1125.06373147	+0.3	-0.4			
83	A 1125.06370469	-0.0	-0.1	A 1125.06370269	+0.2	+0.0
	A 1125.06370387	-0.1	+0.2	A 1125.06371013	-0.2	+0.0
	A 1125.06372388	+0.2	-0.3	A 1125.06373469	-0.3	+0.5
	A 1125.06373147	+0.3	-0.4			
84	A 1125.06372287	-0.3	+0.0	A 1125.06372585	-0.0	-0.3
	A 1125.06372061	-0.0	-0.2	A 1125.06371649	+0.1	+0.5
	A 1125.06370194	+0.0	-0.1	A 1125.06370193	-0.4	-0.4
	A 1125.06370287	+0.7	-0.1	A 1125.06371711	+0.2	+0.3
	A 1125.06369726	-0.3	+0.2			
85	A 1125.06372287	-0.3	-0.1	A 1125.06372585	+0.1	-0.2
	A 1125.06372061	-0.0	-0.3	A 1125.06371649	+0.1	+0.6
	A 1125.06370194	+0.1	-0.1	A 1125.06370193	-0.4	-0.5
	A 1125.06370287	+0.7	-0.1	A 1125.06371711	+0.2	+0.3
	A 1125.06369726	-0.3	+0.3			
86	A 0900.06946833	+0.1	-0.6	A 0900.06945857	-0.1	+0.5
	A 0900.06945958	+0.3	-0.1	A 0900.06948185	+0.3	-0.2
	A 0900.06948224	-0.6	+0.1	A 0900.06948215	+0.5	+0.3
	A 0900.06948043	-0.1	+0.2	A 0900.06946726	-0.3	-0.1
87	A 0900.06946833	+0.0	-0.6	A 0900.06945857	-0.1	+0.5
	A 0900.06945958	+0.5	-0.2	A 0900.06948185	+0.2	-0.2
	A 0900.06948224	-0.4	-0.1	A 0900.06948215	+0.5	+0.3
	A 0900.06948043	-0.1	+0.2	A 0900.06946726	-0.6	+0.0
88	A 0900.06945443	+0.4	-0.3	A 0900.06943356	+0.1	+0.3
	A 0900.06942551	-0.4	-0.6	A 0900.06945786	+0.0	-0.4
	A 0900.06946109	-0.5	+0.2	A 0900.06944289	+0.1	+0.3
	A 0900.06945300	+0.0	+0.3	A 0900.06942960	+0.1	+0.2
	A 0900.06943073	+0.2	+0.1			
89	A 0900.06945443	+0.4	-0.3	A 0900.06943356	+0.3	+0.1
	A 0900.06942551	-0.3	-0.6	A 0900.06945786	-0.1	-0.5
	A 0900.06946109	-0.5	+0.1	A 0900.06944289	+0.1	+0.2
	A 0900.06945300	+0.1	+0.5	A 0900.06942960	-0.3	+0.5
	A 0900.06943073	+0.3	+0.0			
90	A 1425.09096155	+0.1	+0.3	A 1425.09094022	-0.1	-0.2
	A 1425.09087990	+0.1	+0.3	A 1425.09087920	-0.0	-0.3
	A 1425.09093643	+0.1	+0.2	A 1425.09098917	-0.1	-0.2
	A 1425.09099921	+0.1	+0.0	A 1425.09095548	-0.1	-0.1
91	A 1425.09097269	+0.8	-0.1	A 1425.09099666	-0.5	+0.2
	A 1425.09095236	+0.2	-0.2	A 1425.09093526	-0.3	-0.4
	A 1425.09093647	-0.0	-0.2	A 1425.09094119	+0.1	+0.7
	A 1425.09089765	+0.1	+0.1	A 1425.09092335	-0.3	+0.1

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
92	A 1425.09082308	+0.1	-0.0	A 1425.09079874	-0.0	-0.4
	A 1425.09078733	-0.0	+0.4	A 1425.09075010	+0.0	-0.0
	A 1425.09079156	-0.0	+0.0	A 1425.09085183	-0.0	+0.1
93	A 1425.09082308	+0.1	-0.0	A 1425.09079874	+0.0	-0.4
	A 1425.09078733	-0.1	+0.4	A 1425.09075010	+0.0	-0.0
	A 1425.09079156	-0.0	+0.0	A 1425.09085183	-0.1	+0.1
94	A 1500.06210354	-0.2	-0.4	A 1500.06210009	-0.3	+0.4
	A 1500.06210131	-0.0	-0.1	A 1500.06209024	+0.0	+0.1
	A 1500.06208010	+0.1	-0.0	A 1500.06210814	+0.3	+0.1
	A 1500.06209314	+0.3	+0.0	A 1500.06208519	-0.2	-0.1
95	A 1500.06149712	+0.1	+0.2	A 1500.06148521	+0.1	-0.1
	A 1500.06152865	+0.0	-0.2	A 1500.06150190	-0.0	+0.2
	A 1500.06152646	-0.1	+0.0	A 1500.06147544	-0.1	-0.2
96	A 1500.06149712	+0.1	+0.2	A 1500.06148521	+0.1	-0.0
	A 1500.06152865	+0.0	-0.1	A 1500.06150190	-0.0	+0.2
	A 1500.06152646	-0.1	-0.0	A 1500.06147544	-0.1	-0.2
97	A 1500.06120679	-0.4	+0.1	A 1500.06123442	+0.3	-0.4
	A 1500.06125255	-0.2	+0.4	A 1500.06124211	+0.3	-0.3
	A 1500.06125680	-0.2	+0.1	A 1500.06123190	+0.2	+0.0
	A 1500.06119086	-0.1	+0.1	A 1500.06119287	-0.0	-0.1
98	A 1500.06118210	+0.2	+0.1			
	A 1500.06120679	-0.4	+0.1	A 1500.06123442	+0.2	-0.3
	A 1500.06125255	-0.2	+0.4	A 1500.06124211	+0.3	-0.3
	A 1500.06125680	-0.2	+0.1	A 1500.06123190	+0.1	+0.0
	A 1500.06119086	-0.1	+0.1	A 1500.06119287	-0.0	-0.1
99	A 1500.06118210	+0.2	+0.1			
	A 1500.06061911	-0.1	-0.1	A 1500.06059962	+0.5	-0.1
	A 1500.06058334	-0.2	-0.1	A 1500.06057676	-0.3	+0.3
	A 1500.06059039	+0.3	-0.3	A 1500.06060515	+0.0	-0.1
100	A 1500.06061266	-0.1	+0.1	A 1500.06062470	-0.2	+0.2
	A 1500.06061911	-0.1	-0.1	A 1500.06059962	+0.4	-0.2
	A 1500.06058334	-0.1	-0.0	A 1500.06057676	-0.3	+0.4
	A 1500.06059039	+0.3	-0.3	A 1500.06060515	+0.1	-0.2
101	A 1500.06061266	-0.2	+0.1	A 1500.06062470	-0.1	+0.3
	A 1500.06053150	-0.0	-0.3	A 1500.06052024	-0.4	+0.1
	A 1500.06051747	+0.7	+0.1	A 1500.06051973	-0.4	-0.3
	A 1500.06053557	-0.2	+0.5	A 1500.06053846	+0.3	-0.0
102	A 1500.06056365	+0.1	-0.5	A 1500.06056319	-0.1	+0.5
	A 1500.06053150	-0.1	-0.3	A 1500.06052024	-0.3	+0.2
	A 1500.06051747	+0.6	+0.1	A 1500.06051973	-0.3	-0.2
	A 1500.06053557	-0.2	+0.4	A 1500.06053846	+0.2	-0.2
103	A 1500.06056365	+0.1	-0.3	A 1500.06056319	-0.1	+0.3
	A 1500.06017513	-0.0	+0.0	A 1500.06017858	+0.1	-0.1
	A 1500.06016543	-0.0	+0.0	A 1500.06015329	-0.1	+0.2
104	A 1500.06014383	+0.1	-0.2	A 1500.06016092	-0.0	+0.1
	A 1500.06017513	+0.0	-0.0	A 1500.06017858	-0.0	-0.0
	A 1500.06016543	+0.1	-0.1	A 1500.06015329	-0.1	+0.2

N	Number of star	$\Delta\alpha$	$\Delta\delta$	Number of star	$\Delta\alpha$	$\Delta\delta$
105	A 1500.06014383	+0.1	-0.1	A 1500.06016092	-0.0	+0.1
	A 1200.02396997	+0.1	-0.0	A 1200.02395852	-0.1	+0.1
	A 1200.02391705	+0.1	-0.3	A 1200.02388274	-0.1	+0.1
	A 1200.02387136	+0.1	+0.0	A 1200.02390149	+0.2	-0.0
	A 1200.02392255	-0.5	-0.1	A 1200.02393517	+0.1	-0.1
106	A 1200.02394404	+0.2	+0.1			
	A 1200.02396997	+0.0	+0.0	A 1200.02395852	-0.1	+0.1
	A 1200.02391705	+0.2	-0.2	A 1200.02388274	-0.1	+0.1
	A 1200.02387136	+0.1	+0.1	A 1200.02390149	+0.1	-0.0
	A 1200.02392255	-0.4	-0.2	A 1200.02393517	+0.2	+0.0
107	A 1200.02394404	+0.1	+0.1			
	A 1200.01785169	+0.0	+0.1	A 1200.01786628	+0.4	-0.2
	A 1200.01789737	-0.2	+0.1	A 1200.01787922	+0.0	+0.0
	A 1200.01784455	+0.1	+0.4	A 1200.01784953	-0.2	-0.1
	A 1200.01784082	-0.1	-0.2	A 1200.01788254	-0.0	-0.0
108	A 1200.01789352	+0.1	-0.0			
	A 1200.01785169	+0.0	+0.1	A 1200.01786628	+0.4	-0.1
	A 1200.01789737	-0.2	+0.1	A 1200.01787922	-0.0	+0.0
	A 1200.01784455	+0.1	+0.4	A 1200.01784953	-0.2	-0.2
	A 1200.01784082	-0.1	-0.2	A 1200.01788254	-0.1	-0.0
	A 1200.01789352	+0.1	-0.1			

#### 4. List of collaborators

Name	Exposures	Measurements	Reductions
G. Červák	15	16	—
M. Husárik	35	35	—
M. Jakubík	5	5	—
Z. Kaňuchová	7	6	—
L. Neslušan	5	5	108
P. Rychtarčík	41	41	—

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