SUPPLEMENT

Astrometry of minor planets made at the Skalnaté Pleso Observatory in the year 1997

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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 1997.
55 observations of 14 minor planets are given together with the list of reference stars and dependences.

Key words: asteroids – astrometry

1. Introduction

The presented paper is a continuation of the previous papers which gave the results of positional observations of minor planets obtained at the Skalnaté Pleso Observatory (the last paper of this series: Neslušan, 1998) and contains the observations made in the year 1997.

The reference stars were selected from the Smithsonian Astrophysical Observatory Star Catalog (1966). The positions were measured in B1950.0 system and then converted to J2000.0 following the formulas published by System Transition Committee of the IAU Commission 20 (Yeomans, 1990). The formulas used are given in the preceding paper on astrometry of minor planets (Svoreň, 1998).

The reduction constants as well as methods of observation and processing and all the other necessary data are not repeated here. They are also given in the paper by Svoreň (1998).

A total of 55 accurate positions of 14 minor planets are given. A list of reference stars and dependences and a list of collaborators are 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 table contain the following:
N - ordinal number of observation,

MP - number of minor planet,
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 $^{\circ}$,$'$, $''$),
A - the difference between independent determinations of R.A. in arc seconds,
B - the difference between independent determinations of Decl. in arc seconds.

N	MP	Date U.T.		$R.A._{2000}$	$Decl._{2000}$	A	B
1	16	1997 Feb.	3.86042	11 09 53.68	+5 54 05.5	0.4	0.6
2	16	1997 Feb.	3.97153	11 09 50.02	+5 54 33.4	0.5	0.0
3	69	1997 Aug.	22.79514	21 40 09.52	-5 51 23.3	0.7	0.2
4	69	1997 Aug.	22.82986	21 40 07.90	-5 51 35.8	0.6	0.5
5	69	1997 Aug.	23.79514	21 39 25.87	-5 56 57.7	0.9	0.3
6	69	1997 Aug.	28.79514	21 35 52.50	-6 25 10.7	0.9	0.7
7	69	1997 Aug.	28.81111	21 35 51.78	-6 25 16.1	0.8	0.1
8	77	1997 Sep.	7.98750	23 14 46.68	-5 58 55.2	0.2	0.7
9	77	1997 Sep.	8.03472	23 14 44.14	-5 59 08.0	0.6	0.2
10	97	1997 Sep.	22.83333	2 08 39.86	-0 09 29.3	0.1	0.8
11	97	1997 Sep.	22.86181	2 08 39.51	-0 09 47.8	0.5	0.1
12	97	1997 Oct.	6.90139	2 03 27.27	-2 53 54.5	0.5	0.5
13	97	1997 Oct.	6.93403	2 03 26.11	-2 54 18.0	0.5	0.3
14	97	1997 Oct.	7.97361	2 02 51.79	-3 06 38.2	0.3	0.2
15	97	1997 Oct.	7.99722	2 02 50.93	-3 06 55.4	0.1	0.7
16	97	1997 Oct.	28.89167	1 48 39.43	-6 44 49.5	0.2	0.4
17	97	1997 Oct.	28.92917	1 48 37.73	-6 45 07.5	0.2	0.9
18	125	1997 Jan.	12.75127	7 49 14.74	+15 17 59.0	0.6	0.2
19	125	1997 Jan.	12.79259	7 49 12.64	+15 18 06.5	0.1	0.4
20	125	1997 Feb.	11.73351	7 24 37.84	+16 58 24.7	0.4	0.6
21	125	1997 Feb.	11.76198	7 24 36.84	+16 58 29.5	0.4	0.0
22	135	1997 Dec.	8.98542	6 30 22.05	+26 43 09.6	0.3	0.6
23	135	1997 Dec.	9.00764	6 30 20.71	+26 43 10.1	0.0	0.6
24	135	1997 Dec.	30.99514	6 05 24.86	+26 49 59.1	0.5	0.2
25	147	1997 Jul.	11.86250	18 43 39.17	-21 27 59.0	0.9	0.3
26	147	1997 Jul.	11.88021	18 43 38.38	-21 27 59.6	0.7	0.7
27	201	1997 Jul.	3.95625	17 45 56.38	-14 33 44.7	0.7	0.5
28	201	1997 Jul.	4.00903	17 45 53.54	-14 33 50.9	0.4	0.7
29	201	1997 Jul.	5.96458	17 44 15.33	-14 37 38.2	0.2	0.1
30	201	1997 Jul.	5.99514	17 44 13.74	-14 37 41.8	0.4	0.5
31	216	1997 May	1.96042	13 50 44.97	-12 12 02.5	0.7	0.7
32	216	1997 May	1.99583	13 50 43.38	-12 11 48.1	0.6	0.7
33	250	1997 Sep.	21.79514	1 00 32.40	+1 12 12.0	0.4	0.8
34	250	1997 Sep.	21.83542	1 00 30.49	+1 12 08.1	0.4	0.4
35	250	1997 Sep.	22.78819	0 59 46.16	+1 10 29.4	0.8	0.3
36	250	1997 Sep.	22.81875	0 59 44.71	+1 10 27.6	0.5	0.3

N	MP	Date U.T.		$R.A._{2000}$	$Decl._{2000}$	A	B
37	250	1997 Sep.	29.77882	0 54 04.28	+0 58 16.2	0.8	0.5
38	259	1997 May	10.82257	15 17 10.57	-7 22 00.8	0.1	0.3
39	259	1997 May	10.83576	15 17 09.96	-7 22 01.1	0.4	0.2
40	338	1997 Dec.	30.93403	4 08 52.81	+25 37 18.5	0.3	0.1
41	338	1997 Dec.	30.97986	4 08 51.32	+25 37 08.0	0.4	0.3
42	376	1997 Oct.	30.79375	1 13 47.63	+17 23 25.2	0.4	0.0
43	376	1997 Oct.	30.83819	1 13 45.22	+17 23 07.3	0.1	0.1
44	376	1997 Oct.	31.90000	1 12 48.50	+17 16 01.0	0.1	0.2
45	376	1997 Oct.	31.92917	1 12 46.93	+17 15 48.3	0.5	0.9
46	376	1997 Nov.	4.90764	1 09 28.36	+16 49 28.7	0.6	0.2
47	376	1997 Nov.	4.95764	1 09 25.89	+16 49 08.4	0.5	0.4
48	4179	1997 Jan.	7.16667	8 26 03.30	+18 25 45.2	0.1	0.0
49	4179	1997 Jan.	7.19514	8 26 00.31	+18 25 58.8	0.2	0.0
50	4179	1997 Jan.	7.86042	8 24 55.60	+18 31 58.0	0.6	0.4
51	4179	1997 Jan.	7.91319	8 24 49.85	+18 32 27.8	0.6	0.3
52	4179	1997 Jan.	8.87222	8 23 15.66	+18 40 39.4	0.8	0.8
53	4179	1997 Jan.	8.91597	8 23 11.08	+18 41 03.4	0.9	0.6
54	4179	1997 Jan.	13.79711	8 15 58.24	+19 17 27.0	0.4	0.1
55	4179	1997 Jan.	13.81933	8 15 56.47	+19 17 35.9	0.3	0.2

3. Reference stars and dependences

The individual columns of the table contain the following:
N - ordinal number of the observation in agreement with the Section 2,
Numbers of reference stars and dependences (SAO catalogue of reference stars is used at all the calculations),
T - the exposure time in minutes.

N	Numbers of stars and dependences						T
1	118667	.33370	118687	.32921	118732	.33709	
	118658	.27451	118684	.40660	118742	.31889	10
2	118667	.34307	118687	.32837	118732	.32856	
	118658	.28153	118684	.40699	118742	.31148	14
3	145514	.30515	145576	.38623	145623	.30862	
	145518	.35327	145580	.26310	145616	.38363	10
4	145520	.27109	145576	.32296	145599	.40596	
	145518	.35850	145580	.25997	145616	.38153	10
5	145514	.36440	145576	.44660	145623	.18900	
	145520	.37139	145578	.39488	145599	.23373	10

N	Numbers of stars and dependences						T
6	145486	.34356	145518	.34523	145535	.31121	
	145472	.28551	145525	.36159	145535	.35289	10
7	145486	.34777	145518	.34101	145535	.31121	
	145472	.28842	145525	.35811	145535	.35347	10
8	146569	.42010	146595	.39593	146599	.18397	
	146550	.23532	146583	.25083	146607	.51385	20
9	146569	.43861	146595	.37679	146599	.18460	
	146550	.23952	146583	.25926	146607	.50122	20
10	129702	.31640	110364	.29949	129725	.38411	
	129645	.18914	110350	.33315	129748	.47771	10
11	129702	.32045	110364	.29521	129725	.38434	
	129645	.19319	110350	.32672	129748	.48009	10
12	129622	.25389	129671	.39434	129684	.35177	
	129625	.38093	129657	.22637	129696	.39270	10
13	129622	.25906	129671	.38931	129684	.35163	
	129625	.38245	129657	.22950	129696	.38805	10
14	129622	.41306	129671	.23308	129684	.35386	
	129625	.42195	129657	.33153	129696	.24652	8
15	120622	.41687	129671	.22945	129684	.35368	
	129625	.42303	129657	.33388	129696	.24309	8
16	129483	.40477	129533	.24673	129536	.34850	
	129476	.22307	129508	.26305	129530	.51389	10
17	129483	.40921	129533	.24242	129536	.34837	
	129476	.22776	129508	.26119	129530	.51105	10
18	97210	.24228	97288	.45453	97316	.30320	
	97206	.23849	97293	.41850	97311	.34301	18
19	97210	.24831	97288	.45033	97316	.30136	
	97206	.24470	97293	.41291	97311	.34239	18
20	96757	.27518	96896	.26605	96906	.45877	
	96747	.22016	96885	.33220	96905	.44763	20
21	96757	.27725	96896	.26547	96906	.45727	
	96747	.22235	96885	.33066	96905	.44699	15
22	78382	.24183	78444	.37330	78468	.38487	
	78410	.25935	78442	.57424	78487	.16641	14
23	78382	.24663	78444	.37218	78468	.38119	
	78410	.26344	78442	.57526	78487	.16130	14
24	77903	.45259	77955	.32399	77987	.22342	
	77905	.48548	77959	.35108	77999	.16344	14
25	187111	.28656	187184	.39780	187283	.31564	
	187119	.29131	187214	.40972	187232	.29897	15

N	Numbers of stars and dependences						T
26	187111	.28818	187184	.39813	187283	.31369	
	187119	.29439	187214	.40779	187232	.29782	15
27	160777	.42915	160804	.37349	160863	.19736	
	160786	.43313	160817	.29457	160821	.27229	18
28	160777	.43559	160804	.37287	160863	.19153	
	160786	.44712	160817	.29018	160821	.26270	18
29	160748	.22321	160780	.45738	160817	.31942	
	160740	.28057	160769	.26796	160818	.45147	14
30	160748	.22876	160780	.45611	160817	.31513	
	160740	.28412	160769	.26882	160818	.44706	14
31	158184	.36863	158195	.25623	158202	.37514	
	158173	.37604	158190	.25007	158218	.37390	14
32	158184	.38124	158195	.26245	158202	.35632	
	158173	.38073	158190	.24999	158218	.36928	14
33	109570	.22148	109585	.26758	109607	.51094	
	109553	.15114	109590	.39385	109612	.45501	20
34	109570	.23227	109585	.26991	109607	.49782	
	109553	.15989	109590	.38816	109612	.45196	20
35	109570	.47947	109585	.32519	109607	.19535	
	109553	.36771	109590	.25071	109612	.38159	18
36	109570	.48762	109585	.32673	109607	.18565	
	109553	.37442	109590	.24653	109612	.37905	18
37	109491	.29110	109528	.20718	109538	.50173	
	109496	.27357	109525	.34797	109548	.37846	8
38	140416	.39653	140423	.30424	140470	.29924	
	140417	.40340	140431	.12188	140443	.47472	15
39	140416	.39791	140423	.30493	140470	.29717	
	140417	.40611	140431	.12352	140443	.47037	15
40	76460	.41648	76482	.42521	76486	.15831	
	76450	.29601	76479	.25384	76484	.45015	22
41	76460	.42224	76482	.42405	76486	.15371	
	76450	.30141	76479	.25414	76484	.44445	22
42	92291	.18540	92314	.39705	92339	.41755	
	92297	.37093	92329	.22605	92341	.40302	22
43	92291	.18800	92314	.40440	92339	.40760	
	92297	.12117	92299	.34701	92341	.53181	22
44	92291	.19807	92301	.44535	92339	.35658	
	92290	.29241	92299	.32416	92341	.38343	20
45	92291	.19933	92301	.44920	92339	.35147	
	92290	.29810	92299	.32270	92341	.37920	20

N	Numbers of stars and dependences						T
46	92248	.41034	92253	.12809	92314	.46157	
	92229	.29175	92263	.21762	92315	.49063	20
47	92248	.42081	92253	.12383	92314	.45536	
	92229	.29849	92263	.21512	92315	.48638	20
48	97775	.26340	97798	.30428	97844	.43232	
	97769	.23324	97812	.36220	97831	.40456	16
49	97775	.26676	97798	.31194	97844	.42130	
	97769	.24338	97812	.35922	97831	.39739	16
50	97775	.32988	97798	.49221	97844	.17791	
	97769	.46103	97812	.30444	97831	.23452	14
51	97775	.33580	97798	.50777	97844	.15644	
	97769	.48045	97812	.29928	97831	.22027	14
52	97745	.30124	97780	.43151	97803	.26725	
	97755	.39931	97775	.42293	97823	.17776	14
53	97745	.31777	97780	.43434	97803	.24789	
	97755	.41526	97775	.42120	97823	.16354	14
54	97665	.44447	97684	.34605	97730	.20948	
	97678	.49312	97684	.35481	97720	.15207	26
55	97665	.45039	97684	.34461	97730	.20500	
	97678	.50416	97684	.35220	97720	.14365	26

4. List of collaborators

Name	Exposures	Measurements	Reductions
G. Červák	39	39	–
L. Neslušan	–	–	55
P. Rychtarčík	16	16	–

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