SUPPLEMENT

Comet astrometry made at the Skalnaté Pleso Observatory in the years 1995 and 1996

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Abstract. The paper presents the results of position photographing of comets carried out at the Skalnaté Pleso Observatory in the years 1995 and 1996. A total of 85 observations of 11 comets are given.

Key words: comets – astrometry

1. Introduction

The presented paper is a continuation of the previous papers which gave the results of positional observations of comets made at the Skalnaté Pleso Observatory (the last paper of this series: Svoreň; 2001) and contains positional comet observations made in the years 1995 and 1996.

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 Svoreň (2001).

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 Svoreň (2001).

A total of 85 accurate positions of 11 comets, arranged according to the new system designation of the comets, are given. The list of collaborators is given, together with their share in photographing, measuring and reducing the positions.

2. Positions of comets

The data have been arranged according to individual comets. The individual columns of the table contain the following:
N - ordinal number of observation,

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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 °,′, ″),
T - the exposure time in minutes,
A - the difference between independent determinations of R.A. in arc seconds,
B - the difference between independent determinations of Decl. in arc seconds.

N	Date U.T.	$R.A._{2000}$	$Decl._{2000}$	T	A	B
		Comet C/1995 O1 (Hale-Bopp)				
1	1996 Apr.	21.06499	19 45 04.72	−18 08 02.9	14	0.2	0.6
2	1996 Apr.	21.07709	19 45 04.56	−18 07 58.3	14	0.1	0.1
3	1996 Apr.	22.07847	19 45 02.75	−18 03 20.4	14	0.1	0.2
4	1996 Apr.	23.05920	19 44 59.97	−17 58 48.1	12	0.8	0.2
5	1996 Apr.	23.07778	19 44 59.93	−17 58 43.5	12	0.6	0.1
6	1996 May	21.93264	19 35 50.82	−15 37 54.4	16	0.4	0.8
7	1996 May	22.02292	19 35 47.41	−15 37 29.7	12	0.7	0.7
8	1996 July	09.92153	18 42 06.55	−11 00 23.5	10	0.3	0.1
9	1996 July	09.95139	18 42 03.92	−11 00 13.5	10	0.4	0.9
10	1996 July	13.94931	18 36 15.22	−10 36 22.7	10	0.9	0.7
11	1996 July	13.99306	18 36 11.33	−10 36 08.9	10	0.5	1.0
12	1996 July	17.89410	18 30 30.56	−10 13 07.5	5	0.5	0.4
13	1996 July	17.92153	18 30 28.12	−10 12 58.9	5	0.1	0.2
14	1996 July	21.83883	18 24 48.70	−09 50 13.0	5	0.4	0.2
15	1996 July	21.85521	18 24 47.28	−09 50 06.6	5	0.3	0.2
16	1996 July	22.92037	18 23 15.80	−09 43 59.8	5	0.3	0.4
17	1996 July	22.93958	18 23 14.15	−09 43 53.6	5	0.3	0.1
18	1996 July	23.88241	18 21 53.74	−09 38 31.7	5	0.6	0.2
19	1996 July	23.89965	18 21 52.27	−09 38 25.1	5	0.3	0.6
20	1996 Aug.	08.86736	18 00 44.85	−08 13 00.3	10	1.3	0.5
21	1996 Aug.	08.90764	18 00 41.91	−08 12 46.2	10	0.5	0.1
22	1996 Aug.	09.90278	17 59 31.08	−08 07 53.5	10	0.2	0.3
23	1996 Aug.	10.88681	17 58 22.19	−08 03 07.3	8	0.5	0.2
24	1996 Aug.	10.92431	17 58 19.50	−08 02 55.1	12	0.3	0.2
25	1996 Oct.	12.75972	17 31 27.58	−04 25 35.8	8	0.1	0.4
26	1996 Oct.	13.73403	17 31 43.39	−04 22 36.3	8	0.1	0.3
27	1996 Oct.	14.72431	17 32 01.13	−04 19 33.3	6	0.8	0.4
28	1996 Oct.	21.74653	17 34 34.50	−03 56 54.2	8	0.1	0.1
		Comet C/1995 Q1 (Bradfield)				
29	1995 Oct.	06.12083	11 10 09.30	+24 50 30.3	8	0.6	0.8
30	1995 Oct.	15.12986	11 09 30.01	+30 54 50.8	6	0.9	0.2
31	1995 Oct.	27.13067	11 06 58.55	+40 18 14.1	10	0.1	0.2

N	Date U.T.		R.A.$_{2000}$	Decl.$_{2000}$	T	A	B
			Comet C/1995 Y1 (Hyakutake)				
32	1996 Jan.	31.19306	16 56 46.86	−10 50 11.0	22	0.2	0.8
33	1996 Feb.	01.14028	17 01 30.49	−10 12 35.3	16	0.6	0.3
34	1996 Feb.	02.18495	17 06 44.58	−09 30 18.1	15	0.5	0.8
35	1996 Feb.	26.13125	19 08 05.93	+08 27 10.0	18	0.5	0.4
36	1996 Feb.	27.13472	19 13 01.56	+09 10 45.4	18	0.8	0.4
37	1996 Feb.	28.12500	19 17 51.88	+09 53 09.4	16	0.2	0.8
38	1996 Feb.	28.15556	19 18 00.68	+09 54 29.4	16	0.4	0.2
			Comet C/1996 B1 (Szczepanski)				
39	1996 Feb.	28.14028	11 18 24.31	+34 24 13.0	16	0.9	0.1
40	1996 Feb.	29.10295	11 12 46.84	+33 08 27.7	10	0.9	0.8
41	1996 Mar.	08.79028	10 28 36.92	+20 57 47.8	16	0.3	0.2
42	1996 Mar.	08.82708	10 28 27.52	+20 54 43.6	16	0.8	0.3
			Comet C/1996 B2 (Hyakutake)				
43	1996 Mar.	18.91233	14 54 14.03	−04 46 00.7	6	0.9	0.1
44	1996 Mar.	20.93542	14 52 21.50	+04 41 50.7	2	0.6	0.4
45	1996 Mar.	20.94514	14 52 20.72	+04 45 26.8	2	0.8	0.8
46	1996 Mar.	23.91111	14 44 08.34	+35 16 00.0	4	0.7	0.4
47	1996 Mar.	23.92361	14 44 04.07	+35 27 42.6	4	0.5	0.4
48	1996 Mar.	25.94236	14 13 17.14	+71 09 14.6	4	0.6	0.3
49	1996 Mar.	25.95278	14 12 50.25	+71 20 13.0	4	0.1	0.3
			Comet C/1996 N1 (Brewington)				
50	1996 Aug.	09.83542	13 24 41.05	+36 01 08.6	24	0.2	0.5
51	1996 Oct.	03.76997	17 58 13.94	+58 05 27.4	25	1.0	0.9
52	1996 Oct.	03.78924	17 58 23.18	+58 04 53.7	25	0.4	0.6
			Comet C/1996 Q1 (Tabur)				
53	1996 Oct.	07.81586	09 06 49.12	+50 28 19.5	5	0.1	0.9
54	1996 Oct.	07.83160	09 07 09.69	+50 30 06.0	5	0.3	0.8
55	1996 Oct.	08.83403	09 30 10.65	+52 15 18.7	8	1.0	0.3
56	1996 Oct.	08.87708	09 31 12.52	+52 19 26.8	8	0.8	0.2
57	1996 Oct.	12.87500	11 11 11.81	+55 49 09.4	8	0.5	0.1
58	1996 Oct.	13.87222	11 35 20.30	+55 50 10.6	8	0.5	0.6
59	1996 Oct.	13.88889	11 35 43.92	+55 50 03.7	8	0.9	0.5
60	1996 Oct.	15.07130	12 02 34.83	+55 29 28.1	6	0.6	0.1
61	1996 Oct.	15.08490	12 02 52.38	+55 29 08.7	6	0.2	0.4
			Periodic comet 6P/d'Arrest				
62	1995 July	26.91667	23 19 49.10	−01 44 07.9	40	0.4	0.5
63	1995 July	27.99688	23 22 50.74	−02 23 09.7	47	0.1	0.1
64	1995 July	28.94861	23 25 30.27	−02 58 26.3	40	0.7	0.1

N	Date U.T.	R.A.$_{2000}$	Decl.$_{2000}$	T	A	B
	Periodic comet 6P/d'Arrest - cont.					
65	1995 July 29.00694	23 25 39.96	−03 00 33.5	40	0.4	0.8
66	1995 Aug. 06.01042	23 47 02.25	−08 22 50.6	32	0.1	0.1
67	1995 Aug. 06.04583	23 47 07.75	−08 24 20.5	32	0.1	0.1
68	1995 Aug. 06.98958	23 49 30.88	−09 04 31.2	30	0.4	0.4
69	1995 Aug. 07.03125	23 49 36.91	−09 06 15.8	30	0.8	0.9
	Periodic comet 19P/Borrelly					
70	1995 Jan. 18.70764	09 49 02.72	+66 35 53.0	18	0.1	0.5
71	1995 Jan. 18.72292	09 49 01.86	+66 36 07.4	18	0.3	0.5
	Periodic comet 22P/Kopff					
72	1996 June 13.89925	19 16 24.04	−16 24 15.4	12	0.7	0.1
73	1996 June 14.88935	19 16 53.94	−16 28 19.4	12	0.4	0.7
74	1996 June 14.90816	19 16 54.48	−16 28 25.0	12	0.8	0.2
	Periodic comet 122P/De Vico					
75	1995 Oct. 03.12986	10 17 37.48	+14 29 55.2	4	0.2	0.8
76	1995 Oct. 03.13542	10 17 39.75	+14 30 21.0	4	0.3	0.6
77	1995 Oct. 05.07361	10 31 01.05	+16 50 13.1	6	0.5	0.6
78	1995 Oct. 06.09236	10 38 27.79	+18 02 44.4	6	0.1	0.2
79	1995 Oct. 06.10486	10 38 33.18	+18 03 41.3	6	0.4	0.2
80	1995 Oct. 18.10139	12 24 50.16	+29 12 16.1	6	0.2	0.7
81	1995 Oct. 18.11667	12 24 58.84	+29 12 46.5	6	0.4	0.3
82	1995 Oct. 23.12292	13 13 05.76	+31 11 20.5	6	0.5	0.2
83	1995 Oct. 23.14097	13 13 15.25	+31 11 37.3	6	0.1	0.1
84	1995 Oct. 24.12292	13 22 23.05	+31 23 12.0	6	0.3	0.7
85	1995 Oct. 24.14375	13 22 34.54	+31 23 23.0	6	0.2	0.5

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

N	Numbers of stars and dependences					
1	162874	.16318	192951	.52012	162980	.31670
	162875	.28988	162950	.26531	162996	.44481

N	Numbers of stars and dependences					
2	162874	.16382	192951	.51905	162980	.31713
	162875	.28997	162950	.26608	162996	.44395
3	162874	.18199	192951	.46718	162980	.35083
	162875	.27485	162950	.31859	162996	.40656
4	162874	.20269	192951	.41498	162980	.38233
	162875	.26235	162950	.36955	162996	.36810
5	162874	.20298	192951	.41415	162980	.38287
	162875	.26212	162950	.37043	162996	.36745
6	162739	.30209	162821	.40730	162824	.29061
	162743	.32348	192790	.30790	162857	.36862
7	162739	.31415	162821	.39564	162824	.29021
	162743	.32724	162790	.31473	162857	.35803
	162777	.35463	162798	.35415	162828	.29122
	162764	.31391	162807	.28311	162818	.40298
8	161713	.36602	161747	.47090	161782	.16308
	161701	.38485	161746	.37900	161800	.23615
9	161713	.38066	161747	.46378	161782	.15556
	161701	.38867	161746	.38536	161800	.22597
	161706	.38622	161756	.22716	161769	.38662
	161707	.31023	161750	.47642	161778	.21335
10	161591	.34150	142395	.24319	161707	.41531
	161632	.65743	142448	.18760	161697	.15497
11	161591	.34137	142395	.25494	161707	.40369
	161632	.67207	142448	.18910	161697	.13883
12	161489	.34846	161581	.29860	142374	.35294
	161514	.52546	142361	.19285	161594	.28169
13	161489	.35661	161581	.29401	142374	.34938
	161514	.53571	142361	.19072	161594	.27357
14	161397	.27349	142287	.45382	161789	.27269
	142262	.35252	161439	.46727	142335	.18021
15	161397	.27689	142287	.45665	161789	.26646
	142262	.35738	161439	.46732	142335	.17530
16	142222	.26755	161439	.24374	142287	.48871
	142243	.30098	161397	.40596	142309	.29306
17	142222	.27299	161439	.23968	142287	.48733
	142243	.30726	161397	.40590	142309	.28684
18	162216	.26718	161397	.32452	142262	.40830
	142201	.40564	161429	.22098	162287	.37338
19	162216	.27322	161397	.32132	142262	.40546
	142201	.40938	161429	.21967	162287	.37095

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N	Numbers of stars and dependences					
20	141992	.24254	142013	.43128	142060	.32618
	141983	.32836	142038	.30193	142051	.36971
21	141992	.24830	142013	.43467	142060	.31703
	141983	.33795	142038	.29635	142051	.36570
22	141992	.39465	142013	.50851	142060	.09684
	141983	.56520	142038	.17146	142051	.26334
23	141962	.25452	141982	.25347	142023	.49201
	141958	.22095	142002	.42814	142013	.35091
24	141962	.25734	141982	.26304	142023	.47962
	141958	.23129	142002	.42490	142013	.34381
25	141709	.42609	141715	.39712	141724	.17679
	141696	.44898	141717	.33370	141738	.21732
26	141709	.42420	141715	.22574	141724	.35006
	141696	.35844	141717	.38020	141738	.26136
27	141675	.19278	141729	.19058	141724	.61664
	141696	.35310	141717	.41051	141750	.23639
28	141724	.26629	141736	.30729	141752	.42642
	141726	.35337	141738	.36479	141759	.28184
29	81665	.24282	81698	.39790	81723	.35928
	81659	.36805	81718	.23478	81721	.39717
30	62402	.26993	62426	.33661	62450	.39346
	62390	.25646	62434	.50676	62450	.23678
31	43573	.22677	43610	.43388	43642	.33935
	43611	.36094	43610	.50588	43643	.13318
32	160148	.30554	161191	.35596	141462	.33850
	160146	.21625	141435	.38963	160223	.39412
33	141435	.23574	160239	.47813	141511	.28613
	160197	.35803	141497	.37931	160264	.26266
34	141497	.19335	160281	.32874	141530	.47791
	141502	.29266	160295	.29757	141530	.40977
35	124268	.36653	124272	.30089	124362	.33258
	124253	.36976	124308	.36756	124366	.26268
36	124359	.25613	124384	.44189	124444	.30198
	124362	.34323	104591	.32504	124443	.33173
37	124450	.24809	104687	.35695	124499	.39496
	104637	.16637	124456	.26992	104718	.56371
38	124450	.19154	104687	.37305	124499	.43541
	104637	.15180	124456	.24576	104718	.60244

N	Numbers of stars and dependences					
39	62459	.65964	62482	−.07340	62532	.41376
	62465	.51200	62503	.07482	62507	.41318
40	62423	.34464	62445	.31825	62478	.33711
	62423	.28789	62432	.32004	62483	.39207
41	81357	.33314	81360	.36815	81391	.29871
	81338	.31086	81377	.41339	81386	.27575
42	81357	.33364	81360	.41356	81391	.25280
	81338	.35627	81377	.38176	81386	.26197
43	140189	.47667	140229	.33152	140237	.19181
	140193	.37142	140213	.39833	140236	.23025
44	120678	.28701	120704	.50840	120749	.20459
	120677	.59921	120744	.13953	120754	.26126
45	120678	.31257	120704	.46982	120749	.21761
	120677	.59822	120744	.16965	120754	.23213
46	64266	.32391	64307	.20590	64318	.47019
	64270	.39930	64286	.26696	64346	.33374
47	64266	.36187	64307	.05406	64318	.58407
	64270	.49321	64286	.16303	64346	.34376
48	7956	.39057	7957	.38773	8015	.22170
	7926	.25336	7927	.26101	8013	.48563
49	7956	.35182	7957	.45487	8015	.19331
	7926	.32587	7927	.20952	8013	.46461
50	63496	.29638	63521	.35960	63543	.34402
	63498	.43001	63525	.22095	63553	.34904
51	30612	.17657	30674	.46695	30691	.35648
	30621	.56696	30703	.08164	30752	.35140
52	30612	.16034	30674	.46310	30691	.37656
	30621	.55296	30703	.08966	30752	.35738
53	27108	.50923	27120	.26648	27165	.22429
	27112	.57499	27128	.20884	27145	.21617
54	27108	.43954	27120	.29416	27165	.26630
	27112	.47074	27128	.25183	27145	.27743
55	27261	.58634	27269	.25808	27327	.15558
	27247	.38476	27284	.42202	27299	.19322
56	27261	.57173	27269	.16791	27327	.26036
	27247	.26201	27284	.48617	27299	.25182
57	27919	.28399	27947	.35839	27953	.35762
	27920	.47620	27942	.31742	27975	.20638

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N	Numbers of stars and dependences					
58	28055	.40496	28068	.26892	28075	.32612
	28046	.53165	28073	.27342	28104	.19493
59	28055	.29144	28068	.28025	28075	.42831
	28046	.49731	28073	.26848	28104	.23421
60	28204	.40618	28240	.25387	28249	.33995
	28188	.15349	28229	.54837	28249	.29814
61	28204	.37179	28240	.26571	28249	.36250
	28188	.13231	28229	.53508	28249	.33261
62	146632	.53762	146648	.25082	146665	.21156
	146609	.32971	146638	.24517	146673	.42512
63	146661	.39562	146665	.24041	146695	.36397
	146646	.38825	146674	.36624	146710	.24551
64	146685	.34450	146695	.21340	146710	.44210
	146680	.46194	146684	.19592	146732	.34214
65	146685	.32576	146695	.15814	146710	.51610
	146680	.44722	146684	.18290	146732	.36988
66	146880	.20281	146903	.51928	146917	.27791
	146873	.13730	146893	.41451	146925	.44819
67	146880	.18176	146903	.50844	146917	.30980
	146873	.10310	146893	.44104	146925	.45586
68	146893	.22840	146923	.38502	165929	.38658
	146903	.25139	165886	.36291	146950	.38570
69	146893	.22157	146923	.36849	165929	.40994
	146903	.23169	165886	.36452	146950	.40379
70	14982	.31754	14983	.36932	15022	.31314
	14968	.17394	14990	.36371	15003	.46235
71	14982	.32525	14983	.36311	15022	.31164
	14968	.17718	14990	.35906	15003	.46376
72	162342	.32686	162381	.19093	162433	.48221
	162305	.33143	162421	.36151	162465	.30706
73	162342	.19056	162381	.22422	162433	.58522
	162305	.23952	162421	.46389	162465	.29659
74	162342	.18788	162381	.22513	162433	.58699
	162305	.23784	162421	.46600	162465	.29616
75	99029	.29931	99037	.39570	99067	.30499
	99013	.36503	99062	.38937	99068	.24560
76	99029	.28982	99037	.39611	99067	.31407
	99013	.35846	99062	.39363	99068	.24791

N	Numbers of stars and dependences					
77	99158	.51151	99165	.25892	99182	.22957
	99143	.46001	99171	.31739	99189	.22260
78	99200	.42939	99228	.33641	99254	.23420
	99194	.50564	99247	.29141	99248	.20295
79	99200	.42069	99228	.32365	99254	.25566
	99194	.48782	99247	.30986	99248	.20232
80	62980	.28535	82289	.48728	63011	.22737
	82246	.28387	62994	.40859	82331	.30754
81	62980	.26275	82289	.47720	63011	.26005
	82246	.26747	62994	.40999	82331	.32254
82	63370	.34457	63410	.39440	63450	.26103
	63349	.13476	63411	.18964	63422	.67560
83	63370	.32432	63410	.39507	63450	.28061
	63349	.11183	63411	.19904	63422	.68913
84	63471	.30094	63495	.37139	63533	.32767
	63458	.23371	63500	.29096	63517	.47533
85	63471	.27361	63495	.36773	63533	.35866
	63458	.19555	63500	.31321	63517	.49124

4. List of collaborators

Name	Exposures	Measurements	Reductions
G. Červák	56	56	–
P. Rychtarčík	29	29	–
J. Svoreň	–	–	85

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