COMET OBSERVATIONS MADE AT THE SKALNATÉ PLESO OBSERVATORY IN THE YEARS 1972 - 1975

M. Antal and J. Svoreň
Astronomical Institute of the Slovak Academy of Sciences, Skalnaté Pleso Observatory, 059 60 Tatranská Lomnica, Czechoslovakia

E. M. Pittich
Astronomical Institute of the Slovak Academy of Sciences, Tatranská Lomnica, Interplanetary Matter Division, 842 28 Bratislava, Dúbravská cesta, Czechoslovakia

Received 10 September 1983

ABSTRACT. The paper presents the results of position photographing of comets carried out at the Skalnaté Pleso Observatory in the years 1972-1975. 252 observations of 14 comets are given together with the list of reference stars and dependences.

НАБЛЮДЕНИЯ КОМЕТ НА ОБСЕРВАТОРИИ СКАЛНАТЕ ПЛЕСО В ПЕРИОД 1972-1975 ГГ. Работа приводит результаты фотографических положений комет наблюдаемых на обсерватории Скалнате Плесо в 1972-1975 гг. Работа содержит 252 наблюдения 14 комет вместе со списком опорных звезд и зависимостей.

POZOROVANIA KOMÉT NA OBSERVATÓRIU NA SKALNATOM PLESE V ROKOCH 1972-1975. V práci sú uvedené výsledky pozičných fotografovaní komét na observatóriu na Skalnatom Plese za roky 1972 - 1975. Je uvedených 252 pozorovaní 14 komét spolu so zoznamom referenčných hviezd a dependencií.

1. INTRODUCTION

The presented paper is a continuation of previous papers which give the results of positional observations of comets made at the Skalnaté Pleso Observatory (Kresák and Antal, 1966; Antal, 1973) and contains positional comet observations made in the years 1972-1975. The observations were made with a 0.3 m f/5 Zeiss astrograph. The reduction constants of the Skalnaté Pleso astrograph are as follows:

λ = $-1^h\ 20^m\ 58.70^s$,
φ = $+49^\circ\ 11'\ 20.0''$,
h = 1783 m m.s.l. ,
ϱ = 0.99836 of the equatorial radius of the Earth.

The comets were photographed on ORWO plates with ZU 2 and ZU 1 emulsions, dimensions 24 x 24 and 9 x 12 cm, which roughly corresponds to fields of 8.5° x 8.5° and 3° x 4°. The reference stars required to compute positions using Schlesinger's method of dependences, from two independent triangles were selected from the Star Catalogs of the Smithsonian Astrophysical Observatory and from AGK 2. The differences between independent determinations of the equatorial coordinates, given for each position in Section 3, provide some information about the accuracy of the results. The rectangular coordinates of the reference stars and the comets were measured with the aid of instrument for measuring coordinates produced by Zeiss (Koordinatenmessgerät). The measurements were reduced by means of table calculators, Hewlett-Packard 9830 A and EMG 666.

A total of 252 accurate positions of 14 comets, arranged according to the definitive designation of the objects, is given. A list of references stars and dependences and a list of collaborators are also given, together with their share in photographing, measuring and reducing the positions.

2. POSITIONS OF COMETS

The data have been arranged according to individual comets in the order of their definitive designation, the individual columns of the tables containing the following:

N - ordinal number of observation,
Date U.T. - date and time of the middle of the exposure,
$R.A._{1950.0}$ - right ascension for equinox 1950.0,
$Decl._{1950.0}$ - declination for equinox 1950.0,
t - the exposure time in minutes,
O - observer,
M - measurer,
R - reduction.

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
	1972 V P/Tempel 1						
1	1972 May 10.93681	$12^h13^m21^s.63$	$+13^\circ53'41''.2$	20	A	A	P
2	May 10.96667	12 13 21.57	+13 53 13.5	20	A	A	P
3	June 20.87292	12 46 24.70	+ 0 20 19.2	10	A	A	P
4	June 20.89514	12 46 26.90	+ 0 19 51.3	10	A	A	P
	1972 VI P/Giacobini-Zinner						
1	1972 June 7.99861	23 19 22.05	+34 17 48.4	10	A	A	P
2	June 8.03125	23 19 31.26	+34 18 25.6	10	A	A	P
3	June 10.99792	23 33 36.74	+35 12 28.5	4	A	A	P
4	June 11.00486	23 33 38.54	+35 12 35.3	4	A	A	P
5	June 11.01111	23 33 40.38	+35 12 43.9	4	A	A	P
6	June 20.99028	0 25 07.32	+37 29 31.9	4	A	A	P
7	June 20.99653	0 25 09.34	+37 29 36.1	4	A	A	A
8	June 21.00278	0 25 11.29	+37 29 42.3	4	A	A	P
9	June 21.01736	0 25 16.09	+37 29 49.4	4	A	A	P
10	June 21.02431	0 25 18.47	+37 29 54.1	4	A	A	P
11	June 21.99097	0 30 36.25	+37 38 41.3	4	A	A	P
12	June 21.99792	0 30 38.56	+37 38 43.8	4	A	A	P
13	June 22.00694	0 30 41.38	+37 38 48.6	4	A	A	P
14	June 22.01319	0 30 43.66	+37 38 52.1	4	A	A	P
15	June 22.01875	0 30 45.28	+37 38 54.7	2	A	A	P
16	June 22.99375	0 36 09.01	+37 46 50.7	2	A	A	P
17	June 22.99931	0 36 10.85	+37 46 55.3	2	A	A	P
18	June 23.00417	0 36 12.54	+37 46 57.2	2	A	A	P
19	June 23.01736	0 36 17.12	+37 47 04.1	2	A	A	P
20	July 4.97847	1 45 33.93	+38 01 52.7	2	A	A	P
21	July 5.00069	1 45 41.62	+38 01 44.9	2	A	A	P
22	July 5.02153	1 45 49.25	+38 01 42.0	2	A	A	P
23	July 5.02708	1 45 51.08	+38 01 36.5	4	A	A	P
24	July 6.96528	1 57 23.44	+37 48 23.8	4	A	A	P
25	July 6.98611	1 57 30.98	+37 48 13.6	4	A	A	P
26	July 9.97708	2 15 19.53	+37 18 58.8	6	A	A	P
27	July 9.99097	2 15 24.40	+37 18 49.1	4	A	A	P
28	July 10.00486	2 15 29.43	+37 18 39.4	4	A	A	P
29	July 10.01875	2 15 34.22	+37 18 30.5	4	A	A	P
30	July 20.02500	3 13 55.17	+34 24 17.2	4	A	A	P
31	July 20.03333	3 13 57.84	+34 24 06.8	4	A	A	P
32	July 20.03819	3 13 59.47	+34 24 00.5	2	A	A	P
33	July 20.04514	3 14 01.94	+34 23 51.9	2	A	A	P
34	July 20.98819	3 19 20.20	+34 01 45.5	6	A	A	P
35	July 20.99514	3 19 33.45	+34 01 38.6	4	A	A	P
36	July 21.02708	3 19 34.11	+34 00 51.2	4	A	A	P
37	July 21.03611	3 19 37.19	+34 00 39.3	4	A	A	P

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
38	1972 July 22.01458	$3^h25^m05^s.59$	$+33^\circ36'46''.2$	4	A	A	P
39	July 22.04375	3 25 15.43	+33 36 04.2	4	A	A	P
40	July 22.04931	3 25 17.19	+33 35 54.9	2	A	A	P
41	July 24.02567	3 36 11.81	+32 44 56.2	4	A	A	P
42	July 24.04167	3 36 16.79	+32 44 29.0	2	A	A	P
43	July 24.05625	3 36 21.68	+32 44 07.1	4	A	A	P
44	July 26.03889	3 47 05.78	+31 49 23.6	4	A	A	P
45	July 26.04375	3 47 07.24	+31 49 16.8	4	A	A	P
46	Sept. 1.07292	6 24 47.77	+ 9 46 14.6	4	A	A	P
47	Sept. 1.08056	6 24 49.04	+ 9 45 57.6	4	A	A	P
48	Sept. 1.09444	6 24 51.71	+ 9 45 27.2	4	A	A	P
49	Sept. 1.09931	6 24 52.78	+ 9 45 15.9	4	A	A	P
50	Sept. 3.08750	6 31 11.31	+ 8 33 04.4	4	A	A	P
51	Sept. 3.09653	6 31 13.06	+ 8 32 44.4	4	A	A	P
52	Sept. 3.10278	6 31 14.21	+ 8 32 30.6	4	A	A	P
53	Sept. 4.06736	6 34 12.63	+ 7 57 52.3	4	A	A	P
54	Sept. 4.08958	6 34 17.89	+ 7 56 59.4	4	A	A	P
55	Sept. 4.09792	6 34 19.81	+ 7 56 44.8	4	A	A	P
56	Sept. 4.11736	6 34 24.40	+ 7 56 01.9	2	A	A	P
57	Nov. 8.12396	8 27 02.84	-22 18 48.8	11	A	A	P
58	Nov. 8.15208	8 27 03.63	-22 19 17.1	8	A	A	P
	1972 VIII Heck - Sause						
1	1973 Jan. 26.92847	12 07 31.81	+21 55 15.9	20	L	F	S
2	Feb. 2.86389	11 53 36.65	+26 18 24.3	6	A	A	P
3	Feb. 2.86875	11 53 35.77	+26 18 30.5	4	A	A	P
4	Feb. 2.92361	11 53 28.64	+26 20 41.5	4	A	A	P
5	Feb. 2.96319	11 53 23.26	+26 22 13.3	6	A	A	P
6	Feb. 2.98056	11 53 20.92	+26 22 53.8	8	A	A	P
7	Feb. 3.01528	11 53 16.35	+26 24 13.3	6	A	A	P
8	Feb. 5.09306	11 48 31.04	+27 44 03.2	6	A	A	P
9	Feb. 5.09792	11 48 30.45	+27 44 19.5	4	A	A	P
10	Feb. 5.12292	11 48 26.74	+27 45 14.5	6	A	A	P
11	Feb. 5.12847	11 48 26.01	+27 45 25.2	6	A	A	P
12	Feb. 5.17222	11 48 19.87	+27 47 07.3	6	A	A	P
13	Feb. 5.17778	11 48 18.95	+27 47 17.8	6	A	A	P
14	Feb. 6.02847	11 46 17.83	+28 20 00.1	12	A	A	P
15	Feb. 6.04792	11 46 14.81	+28 20 44.4	10	A	A	P
16	Feb. 6.08472	11 46 09.46	+28 22 09.0	8	A	A	P
17	Feb. 6.09236	11 46 08.49	+28 22 26.0	6	A	A	P
18	Feb. 6.10278	11 46 06.79	+28 22 51.0	6	A	A	P
19	Feb. 6.10833	11 46 06.16	+28 23 05.3	6	A	A	P
20	March 4.78681	10 25 52.45	+42 36 59.1	10	A	A	P
21	March 4.83264	10 25 43.27	+42 38 01.8	10	A	A	P

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
22	1973 March 4.87778	$10^h25^m34^s.57$	$+42^\circ38'59''.4$	10	A	A	P
23	March 16.78264	9 48 04.58	+45 57 06.8	6	A	A	P
24	March 16.78958	9 48 03.05	+45 57 11.6	6	A	A	P
25	March 16.84028	9 47 54.22	+45 57 46.2	8	A	A	P
26	March 16.90139	9 47 43.63	+45 58 27.5	8	A	A	P
27	March 23.85972	9 28 34.66	+47 03 49.2	20	L	F	S
	1972 IX Sandage						
1	1972 June 22.98333	15 19 07.41	+22 56 18.5	14	A	A	P
2	July 4.90278	15 13 47.69	+23 48 01.2	14	A	A	P
3	July 4.92222	15 13 46.58	+23 48 08.7	10	A	A	P
4	July 6.93472	15 13 05.42	+23 54 30.4	12	A	A	P
5	July 6.95000	15 13 05.17	+23 54 32.4	12	A	A	P
6	Oct. 11.75278	15 48 12.35	+23 52 23.6	10	A	A	P
7	Oct. 11.76181	15 48 12.56	+23 52 21.0	10	A	A	P
8	Nov. 10.69167	16 19 12.24	+24 41 18.9	6	A	A	P
9	Nov. 10.70556	16 19 13.03	+24 41 19.6	10	A	A	P
10	1973 March 29.98264	19 11 53.33	+50 49 09.7	10	A	A	P
11	March 29.99931	19 11 53.87	+50 49 25.4	10	A	A	P
12	March 30.03472	19 11 56.25	+50 50 03.7	10	A	A	P
13	March 30.06944	19 11 57.80	+50 50 37.6	10	A	A	P
	1973 II Kojima						
1	1972 Nov. 8.12396	8 12 29.16	-20 10 52.1	11	A	A	P
2	Nov. 8.15208	8 12 25.97	-20 11 11.8	8	A	A	P
3	Nov. 24.07917	7 33 40.51	-22 59 21.8	8	A	A	P
4	Nov. 24.12569	7 33 37.33	-22 59 36.1	10	A	A	P
5	Nov. 30.98993	7 08 40.03	-23 54 44.3	15	L	F	S
6	Dec. 1.03229	7 08 29.49	-23 55 06.8	15	L	F	S
7	1973 Jan. 7.79169	4 00 20.28	-15 46 31.0	6	A	A	P
8	Jan. 7.79653	4 00 19.01	-15 46 09.1	4	A	A	P
9	Jan. 7.86736	4 00 01.35	-15 44 21.0	4	A	A	P
10	Jan. 7.87222	3 59 59.94	-15 44 09.7	4	A	A	P
11	Jan. 8.74236	3 56 25.70	-15 19 06.0	4	A	A	P
12	Jan. 8.74653	3 56 24.65	-15 18 55.6	4	A	A	P
13	Jan. 8.79236	3 56 13.34	-15 17 38.0	4	A	A	P
14	Jan. 8.79653	3 56 12.37	-15 17 31.4	4	A	A	P
15	Jan. 8.82083	3 56 06.59	-15 16 49.4	6	A	A	P
16	Jan. 8.82569	3 56 05.29	-15 16 40.5	4	A	A	P
17	Jan. 9.79931	3 52 12.32	-14 48 28.3	6	A	A	P
18	Jan. 9.80486	3 52 11.10	-14 48 20.0	6	A	A	P
19	Jan. 9.83403	3 52 03.94	-14 47 27.0	6	A	A	P
20	Feb. 2.73333	2 47 49.41	- 4 08 52.6	6	A	A	P
21	Feb. 2.73889	2 47 48.91	- 4 08 44.9	6	A	A	P

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
22	1973 Feb. 2.77361	$2^h47^m45^s.27$	$-4^\circ07'58''.0$	6	A	A	P
23	Feb. 2.77917	2 47 44.97	- 4 07 51.4	6	A	A	P
24	Feb. 5.74097	2 43 08.68	- 3 01 25.5	6	A	A	P
25	Feb. 5.74653	2 43 08.12	- 3 01 17.0	6	A	A	P
26	Feb. 5.78750	2 43 04.50	- 3 00 23.9	6	A	A	P
27	Feb. 5.79931	2 43 03.47	- 3 00 08.3	8	A	A	P
	1973 VI P/Tuttle - Giacobini - Kresák						
1	1973 June 13.88646	11 05 12.46	+22 11 28.0	7	A	A	P
2	June 13.89240	11 05 13.65	+22 11 28.8	5	A	A	P
3	June 23.88127	11 49 34.11	+19 31 35.0	10	A	A	P
4	June 23.89306	11 49 37.34	+19 31 19.6	10	A	A	P
5	July 6.87708	12 45 42.97	+14 56 36.6	8	A	K	P
6	July 6.89670	12 45 47.68	+14 56 08.3	0.5	A	K	P
7	July 6.90260	12 45 49.14	+14 56 00.2	4.5	A	K	P
8	July 7.86528	12 49 51.60	+14 33 24.2	2	A	K	P
9	July 7.87361	12 49 53.84	+14 33 13.1	2	A	K	P
10	July 7.88507	12 49 56.63	+14 32 57.7	8	A	K	P
11	July 7.89653	12 49 59.49	+14 32 39.9	8	A	K	P
12	July 9.88058	12 58 14.96	+13 45 26.8	8.1	A	K	P
13	July 9.89306	12 58 18.00	+13 45 12.1	4	A	K	P
14	July 9.89792	12 58 19.45	+13 45 02.7	6	A	K	P
15	July 10.86111	13 02 17.79	+13 21 51.1	4	A	K	P
16	July 10.86667	13 02 19.45	+13 21 42.0	8	A	K	P
17	July 10.87778	13 02 22.14	+13 21 25.3	8	A	K	P
18	July 10.88542	13 02 23.83	+13 21 12.7	4	A	K	P
19	July 10.89340	13 02 25.82	+13 21 03.5	4	A	K	P
	1973 VII Kohoutek						
1	1973 March 5.81458	10 42 42.35	+29 07 36.8	10	A	A	P
2	March 5.88264	10 42 20.09	+29 13 04.4	10	A	A	P
3	March 5.93125	10 42 04.50	+29 16 54.5	10	A	A	P
	1973 XI P/Gehrels 2						
1	1973 Nov. 1.76181	1 21 21.55	+ 9 55 05.1	20	A	A	P
2	Nov. 1.84861	1 21 19.30	+ 9 54 32.2	20	A	A	P
3	Nov. 2.84236	1 20 52.98	+ 9 47 40.3	20	A	A	P
4	Nov. 2.88472	1 20 51.87	+ 9 47 23.7	20	A	A	A
5	Nov. 4.96806	1 19 59.79	+ 9 33 20.1	20	A	A	P
6	Nov. 5.00903	1 19 58.49	+ 9 33 06.8	20	A	A	P
	1973 XII Kohoutek						
1	1973 Sept. 30.13056	10 27 29.08	- 0 30 46.5	8	A	A	A
2	Nov. 1.16667	11 34 27.59	- 7 57 05.7	8	A	A	P

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
3	1973 Nov. 1.17292	$11^h34^m28^s.61$	$-7^\circ57'13''.2$	2	A	A	P
4	Nov. 2.16875	11 37 10.44	- 8 15 21.7	2	A	A	P
5	Nov. 2.17118	11 37 10.59	- 8 15 23.8	1	A	A	P
6	Nov. 3.15972	11 39 54.74	- 8 33 43.6	10	A	A	P
7	Nov. 3.16562	11 39 55.74	- 8 33 51.1	2	A	A	P
8	Nov. 3.16771	11 39 56.04	- 8 33 51.8	1	A	A	P
9	Nov. 3.16962	11 39 56.56	- 8 33 54.2	0.5	A	A	P
10	Nov. 4.17153	11 42 46.13	- 8 52 50.1	2	A	A	P
11	Nov. 4.17361	11 42 46.50	- 8 52 53.8	1	A	A	P
12	Nov. 4.17517	11 42 46.76	- 8 52 56.7	0.5	A	A	P
13	Nov. 5.16944	11 45 38.72	- 9 12 02.3	2	A	A	P
14	Nov. 5.17118	11 45 39.06	- 9 12 04.9	1	A	A	P
15	Nov. 5.17274	11 45 39.30	- 9 12 07.2	0.5	A	A	P
16	Nov. 5.17465	11 45 39.56	- 9 12 10.0	2	A	A	P
17	Nov. 22.18333	12 47 54.35	-15 40 02.9	10	A	A	P
18	Nov. 22.18889	12 47 55.63	-15 40 12.4	2	A	A	P
19	Nov. 22.19132	12 47 56.36	-15 40 15.9	1	A	A	P
20	Nov. 22.19323	12 47 56.88	-15 40 20.5	0.5	A	A	P
21	Dec. 3.18559	13 50 10.31	-20 47 37.6	0.5	A	A	P
22	Dec. 3.19375	13 50 13.74	-20 47 50.5	10	A	A	P
23	Dec. 3.20069	13 50 16.70	-20 48 03.0	1	A	A	P
24	Dec. 3.20330	13 50 17.62	-20 48 06.7	0.5	A	A	P
25	1974 Jan. 11.67248	21 39 25.41	-10 00 17.2	0.25	A	A	P
26	Jan. 14.68142	22 13 53.66	- 7 05 26.8	0.5	A	A	P
27	Jan. 14.68394	22 13 55.32	- 7 05 19.3	0.25	A	A	P
28	Jan. 16.68976	22 36 10.49	- 5 07 13.7	0.5	A	A	P
29	Jan. 16.69392	22 36 13.36	- 5 06 59.3	0.5	A	A	P
30	Jan. 16.71128	22 36 24.60	- 5 05 58.5	0.5	A	A	P
31	Jan. 21.70851	23 27 58.13	- 0 23 44.4	0.5	A	A	P
32	Jan. 21.71536	23 28 01.97	- 0 23 21.2	0.25	A	A	P
33	Jan. 21.71675	23 28 02.55	- 0 23 20.5	0.25	A	A	P
34	Jan. 22.69601	23 37 22.37	+ 0 28 08.5	0.5	A	A	P
35	Jan. 22.70781	23 37 29.00	+ 0 28 44.2	0.5	A	A	P
36	Jan. 22.70980	23 37 30.09	+ 0 28 50.7	0.25	A	A	P
37	Jan. 22.71189	23 37 31.22	+ 0 28 57.2	0.25	A	A	P
38	Jan. 23.71198	23 46 45.45	+ 1 19 48.7	0.5	A	A	P
39	Jan. 23.71615	23 46 47.69	+ 1 19 59.9	0.5	A	A	P
40	Jan. 23.72465	23 46 52.21	+ 1 20 26.1	0.5	A	A	P
41	Jan. 23.73229	23 46 56.46	+ 1 20 48.2	0.5	A	A	P
42	Jan. 24.70868	23 55 40.42	+ 2 08 39.0	1	A	A	P
43	Jan. 24.71076	23 55 41.48	+ 2 08 44.8	1	A	A	P
44	Jan. 24.71354	23 55 42.90	+ 2 08 53.4	1	A	A	P
45	Jan. 26.74392	0 12 58.49	+ 3 42 34.6	0.5	A	A	P
46	Jan. 26.74670	0 12 59.81	+ 3 42 41.3	0.5	A	A	P

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
47	1974 Jan. 26.74948	$0^h13^m01^s.26$	$+3^\circ42'50''.3$	0.5	A	A	P
48	Jan. 27.71128	0 20 46.92	+ 4 24 26.3	0.5	A	A	P
49	Jan. 27.71406	0 20 48.25	+ 4 24 32.9	0.5	A	A	P
50	Jan. 27.71684	0 20 49.51	+ 4 24 41.0	0.5	A	A	P
51	Feb. 2.78125	1 03 57.23	+ 8 07 35.1	40	C	F	S
52	Feb. 10.72743	1 47 57.48	+11 34 27.4	1	A	A	P
53	Feb. 10.72998	1 47 58.17	+11 34 28.1	2	A	A	P
54	Feb. 10.73576	1 47 59.68	+11 34 34.5	1	A	A	P
55	Feb. 10.73785	1 48 00.26	+11 34 38.2	1	A	A	P
56	Feb. 11.72917	1 52 41.62	+11 55 09.8	2	A	A	P
57	Feb. 11.73264	1 52 42.79	+11 55 16.2	2	A	A	P
58	Feb. 11.73889	1 52 44.53	+11 55 23.2	2	A	A	P
59	Feb. 11.74167	1 52 45.35	+11 55 26.5	2	A	A	P
60	Feb. 21.76736	2 33 00.59	+14 38 35.3	4	A	A	P
61	Feb. 21.77153	2 33 01.45	+14 38 41.6	4	A	A	P
62	Feb. 21.79722	2 33 06.71	+14 39 01.0	4	A	A	P
63	Feb. 21.80139	2 33 07.54	+14 39 04.2	4	A	A	P
	1974 III Bradfield						
1	1974 May 25.00451	14 13 03.53	+83 22 56.6	25	C	S	S
2	May 25.02361	14 13 06.31	+83 22 15.7	26	C	R	S
	1975 I P/Boethin						
1	1975 Feb. 10.74861	1 36 48.94	+15 01 45.7	8	A	A	P
2	Feb. 10.81250	1 37 05.40	+15 03 36.3	10	A	A	P
	1975 IX Kobayashi - Berger - Milon						
1	1975 July 9.92257	21 21 04.03	+ 4 26 46.2	9	C	R	S
2	July 12.96736	21 02 06.70	+12 33 52.9	10	C	J	P
3	July 17.95067	20 07 31.60	+31 33 53.0	10	S	S	S
4	July 17.98611	20 06 58.13	+31 43 16.1	10	S	J	P
5	July 22.99375	18 11 45.62	+52 08 45.7	2	A	A	P
6	July 22.99792	18 11 37.53	+52 09 30.6	2	A	A	P
7	July 23.00139	18 11 31.45	+52 10 09.3	2	A	A	P
8	July 23.03750	18 10 23.23	+52 16 43.6	2	A	A	P
9	July 23.92639	17 41 38.80	+54 42 38.3	2	A	A	P
10	July 23.93333	17 41 24.76	+54 43 40.9	2	A	A	P
11	July 23.95521	17 40 40.11	+54 46 46.0	1	A	A	P
12	July 24.00278	17 39 04.23	+54 53 30.6	2	A	A	P
13	July 24.00972	17 38 50.26	+54 54 30.1	2	A	A	P
14	July 24.01285	17 38 43.98	+54 54 55.3	1	A	A	P
15	Aug. 5.87431	12 51 14.62	+51 22 28.2	2	C	S	S
16	Aug. 5.87917	12 51 11.91	+51 22 10.7	4	C	S	S
17	Aug. 9.82292	12 22 03.75	+47 57 40.2	6	C	F	P

N	Date U.T.	R.A.$_{1950.0}$	Decl.$_{1950.0}$	t	O	M	R
18	1975 Aug. 9.83194	$12^h22^m00^s.94$	$+47^\circ57'06''.4$	14	C	F	P
19	Aug. 9.84097	12 21 58.30	+47 56 49.3	6	C	R	S
20	Aug. 11.83715	12 10 45.95	+46 24 55.2	3	C	J	P
21	Aug. 11.84549	12 10 43.70	+46 24 36.8	15	C	J	P
22	Aug. 13.83368	12 01 02.88	+44 59 18.5	15	C	J	P
23	Aug. 14.82639	11 56 37.38	+44 18 25.7	10	C	F	S
	1975 X Suzuki - Saigusa - Mori						
1	1975 Oct. 25.11771	12 10 42.08	+33 56 46.9	3	C	J	P
2	Oct. 26.11458	12 22 18.88	+31 19 26.3	4	C	F	S
3	Oct. 26.12361	12 22 25.79	+31 17 51.7	10	C	F	P
	1975 XII Mori - Sato - Fujikawa						
1	1975 Oct. 26.13611	8 34 42.92	-11 44 29.2	10	C	J	P
2	Oct. 26.15556	8 34 43.71	-11 45 23.6	8	C	J	P

3. REFERENCE STARS AND DEPENDENCES

The individual columns of the tables containing the following:
N - ordinal number of the observation in agreement with the Section 2,
Catalogue - the catalogue of reference stars,
Star numbers and dependences,
A - the difference between independent determination of the coordinates - $\Delta\alpha\cos\delta$ in arc seconds,
B - the difference between independent determination of the coordinates - $\Delta\delta$ in arc seconds,
C - notes.

N	Catalogue	Star numbers and dependences						A	B	C
	1972 V P/Tempel 1									
1	SAO 2	99993	.27495	100007	.37110	100036	.35395			
		99980	.15718	100014	.23937	100016	.60345	0.5	0.0	
2	SAO 2	99993	.27986	100007	.36412	100036	.35602			
		99980	.15752	100014	.23026	100016	.61222	0.1	0.6	e
3	SAO 2,3	138973	.57669	119616	.40426	119640	.01905			
		138973	.57908	119605	.22934	119638	.19158	0.3	0.3	a
4	SAO 2,3	138973	.57748	119616	.38761	119640	.03491			
		138973	.57645	119605	.22075	119638	.20280	0.3	0.4	a

N	Catalogue	Star numbers and dependences			A	B	C
	1972 VI, P/Giacobini - Zinner						
1	SAO 1	73175 .36209	73208 .36775	73209 .27016			
		73176 .33225	73198 .30966	73224 .35809	1.2	0.1	a
2	SAO 1	73175 .31185	73208 .38818	73209 .29997			
		73176 .29609	73198 .30597	73224 .39794	0.7	0.9	a
3	SAO 1	73353 .33835	73361 .37208	73387 .28957			
		73354 .43043	73365 .37112	73392 .19845	0.3	0.1	
4	SAO 1	73353 .33212	73361 .36688	73387 .30100			
		73354 .42504	73365 .36509	73392 .20987	0.3	0.1	
5	SAO 1	73353 .32486	73361 .36279	73387 .31235			
		73354 .41997	73365 .35807	73392 .22196	0.3	0.2	
6	SAO 1	53864 .31174	53930 .29819	53931 .39007			
		53893 .54376	53933 .21499	53939 .24125	1.2	0.6	
7	SAO 1	53864 .30479	53930 .30154	53931 .39367			
		53893 .53384	53933 .22184	53939 .24432	1.1	0.8	
8	SAO 1	53864 .29802	53930 .30545	53931 .39653			
		53893 .52442	53933 .22758	53939 .24800	1.4	0.9	b
9	SAO 1	53864 .28148	53930 .31238	53931 .40614			
		53893 .50073	53933 .24480	53939 .25447	1.3	0.9	
10	SAO 1	53864 .27331	53930 .31618	53931 .41051			
		53893 .48903	53933 .25287	53939 .25810	1.2	0.7	
11	SAO 1	53968 .27006	53972 .39709	54000 .33285			e
12	SAO 1	53968 .26907	53972 .38416	54000 .34677			
		53957 .52891	53987 .15165	54018 .31944	0.1	0.4	e
13	SAO 1	53968 .26862	53972 .36745	54000 .36393			
		53957 .51717	53987 .15514	54018 .32769	0.4	0.3	e
14	SAO 1	53968 .26794	53972 .35439	54000 .37767			
		53957 .50760	53987 .15798	54018 .33442	0.4	0.4	e
15	SAO 1	53968 .26758	53972 .34498	54000 .38744			
		53957 .50087	53987 .15991	54018 .33922	0.3	0.4	c,e
16	SAO 1	54029 .29286	54045 .32770	54077 .37944			
		54020 .42893	54050 .24929	54092 .32178	0.3	0.5	
17	SAO 1	54029 .28689	54045 .32613	54077 .38698			
		54020 .42313	54050 .25039	54092 .32648	0.3	0.5	
18	SAO 1	54029 .28070	54045 .32567	54077 .39363			
		54020 .41845	54050 .25046	54092 .33109	0.7	0.7	
19	SAO 1	54029 .26450	54045 .32378	54077 .41172			
		54020 .40507	54050 .25144	54092 .34349	0.7	0.7	

N	Catalogue	Star numbers and dependences			A	B	C
20	SAO 1	54956 .22549	54993 .53786	55019 .23665			
		54981 .30277	54987 .59631	55030 .10092	0.2	0.4	a
21	SAO 1	54956 .18990	54993 .55865	55019 .25145			
		54981 .27626	54987 .58133	55030 .14241	0.6	0.7	a
22	SAO 1	54956 .15345	54993 .58210	55019 .26445			
		54981 .24830	54987 .56827	55030 .18343	0.7	0.9	a
23	SAO 1	54956 .14583	54993 .58513	55019 .26904			
		54981 .24323	54987 .56316	55030 .19361	0.4	0.2	
24	SAO 1	55170 .50173	55188 .17695	55199 .32132			
		55169 .30266	55175 .48076	55206 .21658	0.4	0.1	b
25	SAO 1	55170 .44923	55188 .18881	55199 .36195			
		55169 .24752	55175 .50234	55206 .25014	0.3	0.1	b
26	SAO 1	55407 .28788	55433 .44576	55478 .26636			
		55407 .32335	55434 .35680	55474 .31985	0.2	0.6	
27	SAO 1	55407 .27904	55433 .43420	55478 .28676			
		55407 .30689	55434 .35301	55474 .34010	0.2	0.6	
28	SAO 1	55407 .26983	55433 .42243	55478 .30774			
		55407 .28977	55434 .34921	55474 .36101	0.5	0.6	
29	SAO 1	55407 .26092	55433 .41138	55478 .32770			
		55407 .27346	55434 .34568	55474 .38086	0.6	0.6	
30	SAO 1	56278 .33943	56321 .44471	56349 .21586			
		56291 .49528	56298 .27448	56367 .23024	0.2	0.2	
31	SAO 1	56278 .32763	56321 .45176	56349 .22061			
		56291 .49680	56298 .26364	56367 .23956	0.2	0.2	
32	SAO 1	56278 .32041	56321 .45608	56349 .22351			
		56291 .49774	56298 .25699	56367 .24527	0.2	0.3	b
33	SAO 1	56278 .30963	56321 .46232	56349 .22805			
		56291 .49888	56298 .24727	56367 .25385	0.2	0.3	b
34	SAO 1	56340 .18778	56382 .32763	56414 .48459			
	AGK2 +33°	56340 .21022	317 .31034	56408 .47944	0.2	0.9	a,b
35	SAO 1	56340 .17757	56382 .32821	56414 .49422			
	AGK2 +33°	56340 .19845	317 .31790	56408 .48365	0.1	0.6	a,b
36	SAO 1	56340 .14992	56382 .31411	56414 .53597			
	AGK2 +33°	56340 .15845	317 .35573	56408 .48582	0.1	0.7	
37	SAO 1	56340 .14148	56382 .31122	56414 .54730			
	AGK2 +33°	56340 .14699	317 .36573	56408 .48728	0.1	0.7	
38	SAO 1	56437 .28955	56478 .38487	56502 .32558			
		56439 .30015	56460 .31757	56506 .38228	0.3	0.2	e

N	Catalogue	Star numbers and dependences						A	B	C
39	SAO 1	56437	.25065	56478	.39912	56502	.35023			
		56439	.30193	56460	.27064	56506	.42743	0.4	0.2	e
40	SAO 1	56437	.24377	56478	.40129	56502	.35494			
		56439	.30286	56460	.26145	56506	.43569	0.1	0.6	b
41	SAO 1	338	.33068	56606	.44863	56658	.22069			
	AGK2 +32°									
42	SAO 1	56553	.28023	56609	.30548	56647	.41429			
	AGK2 +32°	338	.30780	56606	.46470	56658	.22750	0.3	0.6	
43	SAO 1	56553	.26974	56609	.30558	56647	.42468			
	AGK2 +32°	338	.28626	56606	.47878	56658	.23496	0.2	0.3	b
44	SAO 1	56717	.23756	56738	.23820	56743	.52424			
		56722	.41016	56738	.43930	56775	.15054	0.7	0.2	b
45	SAO 1	56717	.22669	56738	.24489	56743	.52842			
		56722	.40093	56738	.44314	56775	.15593	0.4	0.0	b
46	SAO 2	113839	.09836	113916	.50375	95711	.39789			
		113846	.21062	95699	.34399	113932	.44539	0.0	0.3	b
47	SAO 2	113839	.08889	113916	.53547	95711	.37564			
		113846	.20786	95699	.33634	113932	.45580	0.9	0.4	b
48	SAO 2	113839	.06888	113916	.59816	95711	.33296			
		113846	.20165	95699	.32186	113932	.47649	0.6	0.1	b
49	SAO 2	113839	.06105	113916	.62244	95711	.31651			
		113846	.19897	95699	.31642	113932	.48461	0.9	0.3	
50	SAO 2	113981	.20756	114066	.34621	114088	.44623			
		114022	.33231	114070	.42410	114093	.24359	0.6	0.1	
51	SAO 2	113981	.20067	114066	.34347	114088	.45586			
		114022	.32362	114070	.42008	114093	.25630	0.0	0.3	
52	SAO 2	113981	.19603	114066	.34147	114088	.46250			
		114022	.31817	114070	.41730	114093	.26453	0.7	0.0	
53	SAO 2	114105	.17708	114137	.64087	114141	.18205			
		114093	.37125	114152	.45183	114180	.17692	1.5	0.4	c
54	SAO 2	114105	.11716	114137	.65607	114141	.22677			
		114093	.33470	114152	.48966	114180	.17564	1.6	0.2	c
55	SAO 2	114105	.09490	114137	.66601	114141	.23909			
		114093	.32173	114152	.50175	114180	.17652	1.5	0.2	c
56	SAO 2	114105	.06398	114137	.66008	114141	.27594			
		114093	.30137	114152	.52708	114180	.17155	1.1	0.6	c
57	SAO 3	175905	.35851	175922	.39363	175965	.24785			
		175906	.41867	175913	.31571	175970	.26562	0.9	0.4	a,c

N	Catalogue	Star numbers and dependences						A	B	C
58	SAO 3	175905	.37681	175922	.36021	175965	.26298			
		175906	.42544	175913	.30029	175970	.27427	1.1	0.8	a,c
	1972 VIII Heck - Sause									
1	SAO 2	82142	.45973	82173	.24516	82197	.29511			
		82142	.31938	82158	.32944	82188	.35118	0.1	0.4	
2	SAO 2	82047	.31510	82056	.19581	82067	.48909			
		82043	.14694	82057	.53518	82071	.31788	0.2	0.1	
3	SAO 2	82047	.32013	82056	.19749	82067	.48238			
		82043	.15263	82057	.53217	82071	.31520	0.5	0.2	b
4	SAO 2	82047	.34957	82056	.23123	82067	.41920			
		82043	.20752	82057	.48787	82071	.30461	0.6	0.1	
5	SAO 2	82047	.37270	82056	.25492	82067	.37238			
		82043	.24827	82057	.45612	82071	.29561	0.5	0.1	
6	SAO 2	82047	.38275	82056	.26543	82067	.35182			
		82043	.26594	82057	.44224	82071	.29182	0.9	0.2	
7	SAO 2	82047	.40202	82056	.28593	82067	.31205			
		82043	.30074	82057	.41491	82071	.28435	0.4	0.3	
8	SAO 2	81996	.32267	82012	.17340	82031	.50393			
		81997	.37253	82012	.08629	82032	.54118	0.8	0.1	
9	SAO 2	81996	.32178	82012	.17919	82031	.49903			
		81997	.37125	82012	.09275	82032	.53600	0.7	0.2	b
10	SAO 2	81996	.32416	82012	.19852	82031	.47732			
		81997	.37244	82012	.11437	82032	.51319	0.9	0.1	
11	SAO 2	81996	.32473	82012	.20220	82031	.47307			
		81997	.37262	82012	.11862	82032	.50876	0.6	0.2	
12	SAO 2	81996	.32677	82012	.23830	82031	.43503			
		81997	.37240	82012	.15879	82032	.46881	0.6	0.3	
13	SAO 2	81996	.32788	82012	.24187	82031	.43025			
		81997	.37330	82012	.16290	82032	.46380	0.8	0.3	
14	SAO 2	81997	.15667	82000	.15943	82004	.68390			
		81996	.25953	82000	.48296	82012	.25751	0.2	0.5	e
15	SAO 2	81997	.16232	82000	.21466	82004	.62302			
		81996	.25479	82000	.51048	82012	.23473	0.4	0.0	
16	SAO 2	81997	.17093	82000	.31537	82004	.51370			
		81996	.24505	82000	.56076	82012	.19419	0.1	0.4	
17	SAO 2	81997	.17208	82000	.33409	82004	.49383			
		81996	.24285	82000	.57044	82012	.18671	0.2	0.2	e

N	Catalogue	Star numbers and dependences			A	B	C
18	SAO 2	81997 .17520	82000 .36523	82004 .45957			
		81996 .24021	82000 .58587	82012 .17392	0.3	0.3	e
19	SAO 2	81997 .17523	82000 .37875	82004 .44602			
		81996 .23798	82000 .59307	82012 .16895	0.1	0.3	e
20	SAO 1	43329 .29747	43352 .38317	43378 .31936			
		43329 .40883	43355 .27177	43385 .31940	1.3	0.6	
21	SAO 1	43329 .31028	43352 .39219	43378 .29753			
		43329 .41656	43355 .28694	43385 .29650	1.3	0.5	
22	SAO 1	43329 .32273	43352 .40020	43378 .27707			
		43329 .42422	43355 .30078	43385 .27500	2.0	0.2	
23	SAO 1	43057 .32773	43067 .44824	43087 .22403			
		43052 .31679	43055 .19856	43087 .48465	0.0	0.7	a
24	SAO 1	43057 .33196	43067 .45239	43087 .21565			
		43052 .31992	43055 .20150	43087 .47858	0.6	0.4	a
25	SAO 1	43057 .35821	43067 .47444	43087 .16735			
		43052 .33634	43055 .21954	43087 .44412	0.7	0.5	a
26	SAO 1	43057 .38964	43067 .50112	43087 .10924			
		43052 .35589	43055 .24113	43087 .40298	0.1	0.0	a
27	SAO 1	42894 .37794	42904 .27544	42919 .34662			
		42880 .41270	42917 .33126	42925 .25604	0.2	0.2	
	1972 IX Sandage						
1	SAO 2	83754 .24067	83783 .48305	83801 .27628			
		83767 .59547	83773 .12478	83801 .27975	0.7	0.6	
2	AGK2 +23°,+24°	1532 .28083	1447 .48914	1538 .23003			
	SAO 2	1446 .49393	1534 .18395	83742 .32212	0.9	0.1	e
3	AGK2 +23°,+24°	1532 .28666	1447 .48494	1538 .22840			
	SAO 2	1446 .50877	1534 .18572	83742 .30551	0.7	0.2	c,e
4	AGK2 +23°,+24°	1532 .52937	1447 .28066	1538 .18997			
		1532 .17762	1446 .60830	1534 .21408	1.6	0.9	e
5	AGK2 +23°,+24°	1532 .53078	1447 .27964	1538 .18958			
		1532 .17970	1446 .60651	1534 .21379	1.9	0.6	e
6	SAO 2	84016 .32405	84029 .31072	84042 .36523			
		83996 .32774	84029 .27264	84058 .39962	0.1	0.9	
7	SAO 2	84016 .32317	84029 .30987	84042 .36696			
		83996 .32735	84029 .27220	84058 .40044	0.5	0.4	
8	SAO 2	84309 .54351	84331 .33525	84341 .12124			
		84303 .32231	84313 .36856	84342 .30913	1.2	0.0	

N	Catalogue	Star numbers and dependences						A	B	C
9	SAO 2	84309	.53738	84331	.34049	84341	.12213			
		84303	.32054	84313	.36600	84342	.31346	0.5	0.3	
10	SAO 1	31444	.15786	31481	.11992	31487	.72222			
		31431	.33877	31494	.24616	31511	.41507	0.1	0.0	c
11	SAO 1	31444	.15272	31481	.13524	31487	.71204			
		31431	.33562	31494	.25295	31511	.41143	0.2	0.4	
12	SAO 1	31444	.13424	31481	.16810	31487	.69766			
		31431	.32427	31494	.27165	31511	.40408	0.2	0.4	
13	SAO 1	31444	.12098	31481	.19902	31487	.68000			
		31431	.31619	31494	.28717	31511	.39664	0.5	0.1	
	1973 II	Kojima								
1	SAO 3	175408	.47498	154012	.18012	175482	.34490			
		175408	.55723	154041	.27368	175505	.16909	1.0	0.6	b
2	SAO 3	175408	.49419	154012	.17810	175482	.32771			
		175408	.57471	154041	.26758	175505	.15771	0.7	0.6	
3	SAO 3	174027	.22861	174064	.25586	174108	.51553			
		174034	.46014	174036	.16832	174155	.37154	0.2	0.1	b
4	SAO 3	174027	.26190	174064	.24262	174108	.49548			
		174034	.48308	174036	.16306	174155	.35386	0.2	0.3	
5	SAO 3	173048	.39758	173148	.25315	173219	.34927			
		173040	.20010	173110	.56157	173280	.23833	0.4	0.3	
6	SAO 3	173048	.44333	173148	.23419	173219	.32248			
		173040	.22146	173110	.56948	173280	.20906	0.6	0.0	
7	SAO 3	149320	.41406	149336	.23822	149340	.34772			
		149318	.44001	149336	.25603	149350	.30396	0.2	0.1	a
8	SAO 3	149320	.42050	149336	.24895	149340	.33055			
		149318	.44230	149336	.26711	149350	.29059	0.1	0.0	a
9	SAO 3	149320	.53521	149336	.31202	149340	.15277			
		149318	.50942	149336	.33530	149350	.15528	0.2	0.1	a
10	SAO 3	149320	.54387	149336	.31820	149340	.13793			
		149318	.51434	149336	.34194	149350	.14372	0.7	0.0	a
11	SAO 3	149250	.17836	149298	.65338	149309	.16799			
		149243	.02010	149289	.82222	149309	.15768	0.6	0.1	a
12	SAO 3	149250	.18164	149298	.65504	149309	.16332			
		149243	.02238	149289	.82499	149309	.15263	0.5	0.1	a
13	SAO 3	149250	.21857	149298	.64642	149309	.13501			
		149243	.05748	149289	.82132	149309	.12120	1.0	0.4	

N	Catalogue	Star numbers and dependences			A	B	C
14	SAO 3	149250 .22172	149298 .64572	149309 .13256			
		149243 .06046	149289 .82101	149309 .11853	1.0	0.6	
15	SAO 3	149250 .24040	149298 .64277	149309 .11683			
		149243 .07751	149289 .82180	149309 .10069	0.7	0.1	
16	SAO 3	149250 .24465	149298 .64187	149309 .11348			
		149243 .08160	149289 .82121	149309 .09719	0.6	0.5	
17	SAO 3	149232 .44828	149250 .21494	149256 .33678			
		149224 .18163	149243 .67147	149256 .14690	1.0	1.9	
18	SAO 3	149232 .46378	149250 .19539	149256 .34083			
		149224 .19010	149243 .66852	149256 .14138	0.8	1.7	
19	SAO 3	149232 .55521	149250 .07835	149256 .36644			
		149224 .24038	149243 .64987	149256 .10975	0.8	1.9	
20	SAO 3	130127 .04699	130135 .58157	130150 .37143			
		130117 .23746	130137 .35104	130154 .41149	0.1	0.0	
21	SAO 3	130127 .04945	130135 .58303	130150 .36752			
		130117 .24084	130137 .34888	130154 .41028	0.3	0.1	
22	SAO 3	130127 .06871	130135 .59057	130150 .34072			
		130117 .26435	130137 .33557	130154 .40008	0.3	0.1	b
23	SAO 3	130127 .06996	130135 .59200	130150 .33804			
		130117 .26653	130137 .33376	130154 .39971	0.5	0.5	
24	SAO 3	130079 .42373	130111 .39300	130116 .18327			
		130065 .34952	130114 .43678	130116 .21370	0.1	0.5	
25	SAO 3	130079 .42636	130111 .38953	130116 .18411			
		130065 .35138	130114 .43407	130116 .21455	0.3	0.5	
26	SAO 3	130079 .44335	130111 .36783	130116 .18882			
		130065 .36337	130114 .41723	130116 .21940	0.8	0.3	
27	SAO 3	130079 .44825	130111 .36146	130116 .19029			
		130065 .36672	130114 .41227	130116 .22101	0.4	0.2	
	1973 VI	P/Tuttle - Giacobini - Kresák					
1	SAO 2	81671 .19592	81683 .68483	81700 .11925			
		81671 .13060	81677 .69586	81702 .17354	1.1	0.6	b
2	SAO 2	81671 .18623	81683 .68987	81700 .12390			
		81671 .12005	81677 .70114	81702 .17881	0.1	0.0	b
3	SAO 2	82005 .39011	99843 .48960	99858 .12029			
		99799 .38783	99856 .31346	99861 .29871	0.5	1.3	
4	SAO 2	82005 .37966	99847 .49023	99858 .13011			
		99799 .37881	99856 .32263	99861 .29856	0.1	0.7	

N	Catalogue	Star numbers and dependences						A	B	C
5	SAO 2	100228	.31170	100278	.32502	100302	.36328			
		100235								
		+100236	.22837	100281	.46390	100286	.30773	0.4	0.0	
6	SAO 2	100228	.29935	100278	.33072	100302	.36993			
		100235								
		+100236	.20791	100281	.46658	100286	.32551	0.3	0.2	
7	SAO 2	100228	.29562	100278	.33224	100302	.37214			
		100236	.20163	100281	.46687	100286	.33150	0.3	0.2	
8	SAO 2	100286	.28709	100302	.38174	100340	.33117			
		100291	.37197	100320	.23390	100324	.39413	0.5	0.0	
9	SAO 2	100286	.46274	100324	.27746	100340	.25980			
		100291	.36131	100320	.24381	100324	.39488	0.4	0.2	
10	SAO 2	100286	.28233	100302	.37068	100340	.34699			
		100291	.34811	100320	.25631	100324	.39558	0.7	0.4	
11	SAO 2	100286	.28013	100302	.36369	100340	.35618			
		100291	.33444	100320	.26954	100324	.39602	0.6	0.3	
12	SAO 2	100346	.27854	100382	.49285	100389	.22861			
		100364	.51250	100378	.57696	100391	.08946	0.2	0.8	
13	SAO 2	100346	.26957	100382	.48852	100389	.24191			
		100364	.49602	100378	.57040	100391	.06642	0.4	0.3	
14	SAO 2	100346	.26500	100382	.48837	100389	.24663			
		100364	.48736	100378	.56830	100391	.05566	0.2	0.6	
15	SAO 2	100378	.35675	100413	.43019	100424	.21306			
		100382	.26636	100409	.60460	100423	.12904	1.1	0.2	
16	SAO 2	100378	.35202	100413	.43164	100424	.21634			
		100382	.26066	100409	.60721	100423	.13213	0.4	0.0	
17	SAO 2	100378	.34427	100413	.43359	100424	.22214			
		100382	.25191	100409	.61038	100423	.13771	1.0	0.4	
18	SAO 2	100378	.33961	100413	.43422	100424	.22617			
		100382	.24669	100409	.61139	100423	.14192	0.8	0.1	
19	SAO 2	100378	.33373	100413	.43653	100424	.22974			
		100382	.23969	100409	.61517	100423	.14514	0.7	0.3	
	1973 VII	Kohoutek								
1	SAO 2	81486	.39446	81503	.37299	81533	.23255			
		81481	.44213	81519	.33818	81533	.21969	0.2	0.8	c
2	SAO 2	81486	.49553	81503	.30795	81533	.19652			
		81481	.52568	81519	.22341	81533	.25091	1.1	0.7	c

N	Catalogue	Star numbers and dependences						A	B	C
3	SAO 2	81486	.56614	81503	.26233	81533	.17153			
		81481	.58433	81519	.14274	81533	.27293	0.5	0.2	c
	1973 XI	P/Gehrels 2								
1	SAO 2	92411	.25264	109849	.54227	92438	.20509			
		92410	.21428	109849	.55039	92434	.23533	0.9	0.2	b
2	SAO 2	92411	.25299	109849	.55491	92438	.19210			
		92410	.21368	109849	.56552	92434	.22080	0.4	0.2	b
3	SAO 2	109829	.33195	92411	.38789	109880	.28016			
		109826	.18314	92411	.40754	109865	.40932	0.2	0.7	a
4	SAO 2	109829	.34014	92411	.38347	109880	.27639			
		109826	.19204	92411	.40233	109865	.40563	0.3	0.6	a
5	SAO 2	109829	.73667	92411	.15687	109880	.10646			
		109826	.61687	92411	.13915	109865	.24398	0.3	1.3	a
6	SAO 2	109829	.74524	92411	.15341	109880	.10135			
		109826	.62656	92411	.13480	109865	.23864	0.2	1.5	a
	1973 XII	Kohoutek								
1	AGK2 -0°	1507	.32623	137608	.51337	1511	.16040			
	SAO 3	1507	.41966	137608	.50532	137619	.07502	0.1	0.1	d,b
2	SAO 3	138282	.17562	138292	.14705	138310	.67733			
		138282	.25487	138297	.41249	138316	.33264	0.4	0.1	a,d
3	SAO 3	138282	.16915	138292	.14791	138310	.68294			
		138282	.24917	138297	.41546	138316	.33537	0.0	0.1	a,d
4	SAO 3	138297	.38176	138342	.30994	138358	.30830			
		138310	.34013	138340	.17460	138342	.48527	0.0	0.2	a
5	SAO 3	138297	.38098	138342	.31129	138358	.30773			
		138310	.33928	138340	.17463	138342	.48609	0.3	0.3	
6	SAO 3	138342	.26779	138367	.67091	138372	.06130			
		138342	.35659	138366	.46579	138381	.17761	0.7	0.1	
7	SAO 3	138342	.25947	138367	.68103	138372	.05950			
		138342	.34892	138366	.47347	138381	.17761	1.1	0.2	
8	SAO 3	138342	.25726	138367	.68318	138372	.05956			
		138342	.34676	138366	.47532	138381	.17792	0.9	0.9	
9	SAO 3	138342	.25317	138367	.68775	138372	.05908			
		138342	.34284	138366	.47885	138381	.17831	0.6	0.8	b
10	SAO 3	138385	.59079	138392	.33711	138398	.07210			
		138371	.30834	138392	.61588	138397	.07578	0.2	0.3	

N	Catalogue	Star numbers and dependences									A	B	C
11	SAO 3	138385	.58571	138392	.34296	138398	.07133						
		138371	.30573	138392	.61940	138397	.07487				0.1	0.3	
12	SAO 3	138385	.58197	138392	.34757	138398	.07045						
		138371	.30388	138392	.62186	138397	.07426				0.0	0.1	
13	SAO 3	138392	.11774	138417	.22341	138419	.65885						
		138385	.12739	138417	.45632	138421	.41629				0.2	0.0	
14	SAO 3	138392	.11531	138417	.22430	138419	.66039						
		138385	.12598	138417	.45725	138421	.41677				0.2	0.3	
15	SAO 3	138392	.11216	138417	.22477	138419	.66307						
		138385	.12401	138417	.45823	138421	.41776				0.0	0.0	b
16	SAO 3	138392	.11189	138417	.22466	138419	.66345						
		138385	.12385	138417	.45812	138421	.41803				0.0	0.3	b
17	SAO 3	157535	.06833	157538	.76065	157555	.17102						
		157520	.49259	157555	.24788	157570	.25953				5.8	3.0	b,e
18	SAO 3	157535	.03301	157538	.79233	157555	.17466						
		157520	.48834	157555	.24949	157570	.26217				0.9	0.2	b,e
19	SAO 3	157535	.01877	157538	.80414	157555	.17709						
		157520	.48482	157555	.25180	157570	.26338				0.5	0.5	b,e
20	SAO 3	157535	.00472	157538	.81725	157555	.17803						
		157520	.48292	157555	.25228	157570	.26480				0.5	0.0	b,e
21	SAO 3	158192	.15475	182019	.13510	182057	.71014						
22	SAO 3	182019	.25549	158215	.21768	182057	.52683						
		182007	.40179	158216	.11364	182076	.48457				1.7	0.4	a,b
23	SAO 3	182019	.23937	158215	.21125	182057	.54938						
		182007	.39199	158216	.11184	182076	.49617				0.9	0.6	a,b
24	SAO 3	182019	.23424	158215	.20941	182057	.55635						
		182007	.38904	158216	.11122	182076	.49974				0.2	0.0	a,b
25	SAO 3	164563	.33216	145607	.41910	164607	.24874						
		164565	.28186	145592	.28364	164606	.43450				0.2	1.5	e
26	SAO 3	145968	.39471	145990	.32294	146009	.28235						
		145963	.35547	145985	.27287	146009	.37166				0.2	0.3	e
27	SAO 3	145968	.38815	145990	.32006	146009	.29179						
		145963	.35004	145985	.26970	146009	.38026				0.4	0.6	e
28	SAO 3	146190	.35047	146210	.29796	146251	.35157						
		146189	.19929	146190	.51240	146291	.28831				0.6	0.1	a
29	SAO 3	146190	.29458	146210	.30189	146251	.45873						
		146189	.20166	146190	.50442	146291	.29392				0.2	0.1	a

N	Catalogue	Star numbers and dependences						A	B	C
30	SAO 3	146190	.29458	146210	.31862	146251	.38680			
		146189	.21201	146190	.47225	146291	.31574	0.4	0.1	a
31	SAO 2, SAO 3	146725	.45351	128215	.23002	146735	.31647			
		146735	.46510	128208	.27003	146767	.26487	0.3	0.3	a
32	SAO 2, SAO 3	146725	.44227	128215	.22251	146735	.33522			
		146735	.45328	128208	.26225	146767	.28447	0.4	2.2	a,b
33	SAO 2, SAO 3	146725	.44078	128215	.22083	146735	.33839			
		146735	.45196	128208	.26066	146767	.28738	0.2	1.3	a,b
34	SAO 2	128294	.51483	128315	.27215	128343	.21302			
		128294	.57826	128319	.17761	128344	.24413	0.1	0.1	
35	SAO 2	128294	.49510	128315	.26746	128343	.23744			
		128294	.56472	128319	.16070	128344	.27458	0.3	0.0	
36	SAO 2	128294	.49202	128315	.26637	128343	.24161			
		128294	.56272	128319	.15752	128344	.27976	0.5	0.1	
37	SAO 2	128294	.48879	128315	.26532	128343	.24589			
		128294	.56044	128319	.15448	128344	.28508	0.3	0.3	
38	SAO 2	128383	.37411	128393	.32058	128428	.30531			
		128391	.41243	128393	.22487	128412	.36270	0.8	0.6	
39	SAO 2	128383	.36566	128393	.32121	128428	.31313			
		128391	.40408	128393	.20931	128412	.38661	0.3	0.2	
40	SAO 2	128383	.34798	128393	.32307	128428	.32895			
		128391	.38632	128393	.17957	128412	.43411	1.1	0.7	
41	SAO 2	128383	.33182	128393	.32440	128428	.34378			
		128391	.37022	128393	.15031	128412	.47947	0.3	0.2	
42	SAO 2	128483	.33326	128489	.30074	128531	.36600			
		128493	.18058	128501	.77514	128531	.04428	0.2	1.0	e
43	SAO 2	128483	.32932	128489	.30042	128531	.37026			
		128493	.18181	128501	.76626	128531	.05193	1.0	1.0	e
44	SAO 2	128483	.32401	128489	.30031	128531	.37568			
		128493	.18371	128501	.75348	128531	.06281	0.0	1.1	
45	SAO 2	109083	.30817	109094	.65093	109105	.04090			
		109058	.25869	109103	.27703	109105	.46428	0.2	0.3	
46	SAO 2	109083	.29926	109094	.65073	109105	.05001			
		109058	.25419	109103	.28411	109105	.46170	0.1	0.4	
47	SAO 2	109083	.28915	109094	.65115	109105	.05970			
		109058	.24929	109103	.29270	109105	.45801	0.4	0.3	
48	SAO 2	109157	.50606	109180	.28853	109220	.20541			
		109151	.51469	109180	.16366	109219	.32165	0.3	0.4	

N	Catalogue	Star numbers and dependences			A	B	C
49	SAO 2	109157 .50455	109180 .28526	109220 .21019			
		109151 .51239	109180 .16214	109219 .32547	0.3	0.4	
50	SAO 2	109157 .50336	109180 .28170	109220 .21494			
		109151 .51043	109180 .16020	109219 .32937	0.3	0.4	
51	SAO 2	109614 .37631	109698 .38423	109713 .23946			
		109636 .56916	109662 .21545	109768 .21539	0.5	0.2	
52	SAO 2	92649 .44842	92659 .30906	92671 .24252			
		92633 .32726	92656 .39868	92689 .27406	1.0	0.1	b,e
53	SAO 2	92649 .44413	92659 .31021	92671 .24566			
		92633 .32372	92656 .40200	92689 .27428	0.4	0.1	
54	SAO 2	92649 .43565	92659 .31148	92671 .25287			
		92633 .31310	92656 .41404	92689 .27286	0.6	0.2	
55	SAO 2	92649 .43044	92659 .31230	92671 .25726			
		92633 .30678	92656 .42115	92689 .27207	0.5	0.4	b
56	SAO 2	92671 .16688	92699 .23816	92704 .59496			
		92682 .11579	92699 .45929	92700 .42492	0.2	0.1	a
57	SAO 2	92671 .16174	92699 .23410	92704 .60416			
		92682 .10694	92699 .45628	92700 .43678	0.5	0.1	
58	SAO 2	92671 .15403	92699 .22919	92704 .61678			
		92682 .09352	92699 .45263	92700 .45385	0.3	0.1	
59	SAO 2	92671 .15033	92699 .22696	92704 .62271			
		92682 .08722	92699 .45080	92700 .46198	0.3	0.4	
60	SAO 2	93003 .23171	93018 .52343	93025 .24486			
		93008 .06400	93010 .52829	93023 .40772	0.2	0.9	b
61	SAO 2	93003 .22625	93018 .52788	93025 .24587			
		93008 .05992	93010 .52420	93023 .41588	0.3	0.7	b
62	SAO 2	93003 .19430	93018 .54693	93025 .25877			
		93088 .02897	93010 .50548	93023 .46555	0.5	0.7	
63	SAO 2	93003 .18939	93018 .54996	93025 .26065			
		93008 .02392	93010 .50243	93023 .47365	0.3	0.6	
	1974 III	Bradfield					
1	SAO 1	2291 .36049	2334 .24062	2411 .39889			
		2278 .33012	2290 .27005	2451 .39983	2.9	2.4	b
2	SAO 1	2291 .37573	2334 .21493	2411 .40934			
		2278 .33669	2290 .26147	2451 .40184	3.6	3.1	b

N	Catalogue	Star numbers and dependences			A	B	C
	1975 I P/Boethin						
1	SAO 2	92534 .17641	92559 .66101	92580 .16258			
		92534 .44506	92569 .31081	92591 .24413	0.1	0.0	a
2	SAO 2	92534 .07258	92559 .78320	92580 .14422			
		92534 .37270	92569 .38863	92591 .23867	0.5	0.2	a
	1975 IX Kobayashi - Berger - Milon						
1	SAO 2	126741 .31445	126753 .40954	126785 .27601			
		126739 .49790	126777 .15122	126780 .35088	1.6	0.3	b
2	SAO 2	106767 .27973	106809 .45101	106866 .26926			
		106801 .49406	106818 .25089	106843 .25505	0.5	0.9	
3	SAO 1	69445 .23158	69484 .30756	69569 .46086			
		69432 .22142	69506 .51204	69591 .26654	0.7	0.6	b
4	SAO 1	69445 .17601	69484 .58301	69569 .24098			
		69432 .41995	69506 .36129	69591 .21876	0.2	0.2	b
5	SAO 1	30775 .31971	30806 .16615	30837 .51414			
		30747 .08568	30816 .56060	30829 .35372	0.6	0.2	b,e
6	SAO 1	30775 .32990	30806 .19319	30837 .47691			
		30747 .10492	30816 .53956	30829 .35552	0.4	0.0	b,e
7	SAO 1	30775 .33659	30806 .21543	30837 .44798			
		30747 .11953	30816 .52212	30829 .35835	0.4	0.2	b,e
8	SAO 1	30775 .40866	30806 .45032	30837 .13102			
		30747 .28165	30816 .33960	30829 .37875	0.3	0.2	b,e
9	SAO 1	30482 .19153	30505 .22658	30554 .58189			
		30478 .31077	30534 .25895	30569 .43028	0.1	0.3	a
10	SAO 1	30482 .21411	30505 .23279	30554 .55310			
		30478 .33459	30534 .25714	30569 .40827	0.0	0.2	a
11	SAO 1	30482 .28251	30505 .25737	30554 .46012			
		30478 .41186	30534 .24632	30569 .34182	0.3	0.2	a
12	SAO 1	30482 .43187	30505 .30541	30554 .26272			
		30478 .57548	30534 .22799	30569 .19653	0.1	0.1	a
13	SAO 1	30482 .45384	30505 .31197	30554 .23419			
		30478 .59911	30534 .22575	30569 .17514	0.2	0.1	a
14	SAO 1	30482 .46338	30505 .31540	30554 .22122			
		30478 .60994	30534 .22409	30569 .16597	0.2	0.2	a
15	SAO 1	28530 .50183	28544 .29913	28627 .19904			
		28519 .34817	28540 .38071	28619 .27112	0.2	0.7	b
16	SAO 1	28530 .50084	28544 .30396	28627 .19520			
		28519 .35242	28540 .37882	28619 .26876	0.3	0.4	b

N	Catalogue	Star numbers and dependences			A	B	C
17	SAO 1	44141 .49957	44165 .21143	44194 .28900			
		44128 .52366	44180 .16213	44209 .31421	2.0	0.8	b
18	SAO 1	44141 .50848	44165 .20729	44194 .28423			
		44128 .53161	44180 .15272	44209 .31567	0.3	0.2	
19	SAO 1	44141 .51571	44165 .20581	44194 .27848			
		44128 .53786	44180 .14674	44209 .31540	1.0	0.7	
20	SAO 1	44046 .43125	44088 .24310	44120 .32565			
		44032 .29148	44092 .34260	44104 .36592	0.9	0.6	
21	SAO 1	44046 .43572	44088 .24062	44120 .32366			
		44032 .29589	44092 .33749	44104 .36662	1.8	1.2	b
22	SAO 1	43976 .47222	44046 .25260	44047 .27518			
		43999 .15794	44016 .56818	44017 .27388	1.3	0.3	
23	SAO 1	43917 .31080	44000 .42207	44016 .26713			
		43964 .32052	43976 .48893	44019 .19055	0.3	0.0	
	1975 X	Suzuki - Saigusa - Mori					
1	SAO 1	62859 .36100	62880 .31310	62956 .32590			
		62875 .21554	62898 .36773	62912 .41673	0.8	0.4	
2	SAO 1	62951 .25905	62972 .30699	63023 .43396			
		62951 .37797	62990 .29007	63028 .33196	0.3	0.2	
3	SAO 1	62951 .26075	62972 .28918	63023 .45007			
		62951 .38227	62990 .26075	63028 .35698	0.0	0.2	
	1975 XII	Mori - Sato - Fujikawa					
1	SAO 3	154434 .48371	154443 .35848	154563 .15781			
		154410 .33335	154465 .23721	154497 .42944	0.9	0.3	
2	SAO 3	154434 .47420	154443 .36670	154563 .15910			
		154410 .33442	154465 .22440	154497 .44118	0.8	1.2	

Notes: a - bad atmospherical conditions,
b - measurements difficult, images of bad quality,
c - comet image extremely faint, measurement difficult,
d - comet low above horizon,
e - photographed through a veil of clouds.

4. LIST OF COLLABORATORS

Name	Abbreviation	Exposures	Measurements	Reductions
M. Antal	A	227	212	3
T. Čiško	C	19	-	-

Name	Abbreviation	Exposures	Measurements	Reductions
J. Fabricius	F	-	10	-
J. Klobušník	J	-	8	-
Ľ. Kresák	K	-	15	-
L. Petrik	L	4	-	-
E. M. Pittich	P	-	-	235
P. Rychtarčík	R	-	3	-
J. Svoreň	S	2	4	14

REFERENCES

Antal, M.: 1973, Contr. Astron. Obs. Skalnaté Pleso 5, 75.
Kresák, L., Antal, M.: 1966, Contr. Astron. Obs. Skalnaté Pleso 3, 113.