

*Astron. Astrophys. Suppl. Ser.* **58**, 499-501 (1984)**Results of astrolabe observations made at Merate observatory :  
time and latitude, 1983**

L. Buffoni, F. Carta, F. Chlistovsky, A. Manara and F. Mazzoleni

Osservatorio Astronomico di Brera, Via Brera 28, 20121 Milano, Italy

*Received April 12, accepted May 24, 1984***Summary.** — Results of the observations made with the Astrolabe Danjon OPL no. 32 are given. The results are in the FK4 system.**Key words :** astrolabe — astronomical time — latitude.

The results of observations made with the Astrolabe Danjon at Merate Observatory in the year 1983 are given. In the reduction provisional CLIs (corrections de lissage interne) are introduced, determined on the basis of data obtained until 1974.

These results follow those of 1982, 1981, 1980, 1979, 1978, 1977, 1976 published in this review, while those of the years 1970-1975 are given in Buffoni *et al.* (1975).

The physical time scale has been provided by a standard atomic caesium clock since March 1st, 1974.

The observational methods (Mazzoleni, 1972) and computation techniques (Buffoni *et al.*, 1975) are explained in former papers.

The astronomical constants used in observations reduction are not changed in the year 1983. For the Merit Campaign (beginning from September, 1st 1983) the new constants have been used.

The results are reported in table I, where the headings

have the following meanings :

- column 1 : date in year, month, day
- column 2 : number of group observed
- column 3 : code of the observer (see below)
- column 4 : mean universal time of the group observation
- column 5 : difference UTO-UTC reported at the UTM time
- column 6 : weight of time determination
- column 7 : difference UTO-TAI reported at 24 hours
- column 8 : instantaneous latitude residual in reference to the conventional latitude of 45° 41' 57".5
- column 9 : weight of latitude determination
- column 10 : radius of the altitude straight lines circle
- column 11 : number of stars observed in the group
- column 12 : weight of the residuals.

Codes of the observers : 2 Francesco Mazzoleni  
4 Franca Chlistovsky  
5 Alessandro Manara  
6 Letizia Buffoni  
7 Fiamma Carta

*Send offprint requests to :* F. Chlistovsky.

**References**

- BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1977, *Astron. Astrophys. Suppl. Ser.* **30**, 193.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1979, *Astron. Astrophys. Suppl. Ser.* **35**, 345.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1980, *Astron. Astrophys. Suppl. Ser.* **42**, 177.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1981, *Astron. Astrophys. Suppl. Ser.* **44**, 97.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1981, *Astron. Astrophys. Suppl. Ser.* **46**, 179.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1981, *Astron. Astrophys. Suppl. Ser.* **49**, 509.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1983, *Astron. Astrophys. Suppl. Ser.* **53**, 43.  
 BUFFONI, L., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1974, 1975, 1976, Time Service Circular-Internal Report of Astronomical Observatory of Milano-Merate, No. 5 1974 ; Nos. 4-6, 8-10, 1975 ; No. 1, 1976.  
 BUFFONI, L., CARTA, F., CHLISTOVSKY, F., MANARA, A. and MAZZOLENI, F. : 1975, *Boll. Geodesia e Scienze Affini*, anno XXXIV, No. 3,  
 MAZZOLENI, F. : 1972, *Mem. Soc. Astron. Ital.*, vol. XLIII, No. 3.



TABLE I (continued).

DATE	Gr.	Obs.	UTM	UTRO-UTRO	W DE	UTRO-EAI	$\Delta\psi$	$W_{\psi}$	R	N	$W_{\tau}$
83 09 05	10	6	20.13	0.5971	1.5	-21.4034	0.949	1.2	2.452	28	1.2
83 09 05	11	6	22.26	0.5682	1.2	-21.4320	1.045	0.8	2.477	24	1.0
83 09 05	1	6	24.38	0.5782	2.5	-21.4238	1.299	1.4	2.494	26	1.9
83 09 06	10	6	20.07	0.5635	1.2	-21.4369	1.147	1.0	2.609	28	1.0
83 09 07	10	2	20.05	0.5784	1.6	-21.4221	1.304	1.3	2.571	24	1.6
83 09 08	10	6	19.94	0.5814	1.3	-21.4191	1.037	1.1	2.422	26	1.1
83 09 12	10	2	19.62	0.5695	1.7	-21.4310	1.041	1.4	2.444	26	1.5
83 09 12	11	2	21.82	0.5690	2.5	-21.4313	1.141	1.6	2.542	26	2.0
83 09 12	1	2	23.99	0.5718	1.4	-21.4282	1.153	0.8	2.410	25	1.1
83 09 13	10	5	19.59	0.5594	1.5	-21.4411	1.245	1.4	2.642	25	1.4
83 09 13	11	5	21.63	0.5658	3.3	-21.4345	1.273	1.3	2.622	22	3.0
83 09 14	10	7	19.53	0.5649	2.1	-21.4356	1.123	1.6	2.413	24	1.9
83 09 14	11	7	21.64	0.5727	2.6	-21.4275	0.972	1.7	2.412	26	1.9
83 09 19	10	6	19.22	0.5647	1.7	-21.4359	1.277	1.3	2.567	27	1.4
83 09 19	11	6	21.31	0.5723	1.0	-21.4280	1.072	0.6	2.428	26	0.7
83 09 19	1	6	23.55	0.5728	3.4	-21.4273	0.931	2.1	2.500	26	2.7
83 09 20	10	6	19.14	0.5541	2.3	-21.4464	1.024	1.8	2.565	27	1.9
83 09 20	11	6	21.27	0.5593	2.6	-21.4410	1.098	1.6	2.723	27	2.0
83 09 20	1	6	23.43	0.5654	1.8	-21.4346	1.146	1.0	2.693	27	1.3
83 09 21	10	2	18.79	0.5595	2.0	-21.4421	1.071	1.5	2.305	18	2.5
83 09 22	10	6	19.01	0.5530	2.0	-21.4475	1.002	1.6	2.277	27	1.7
83 09 22	11	6	21.12	0.5511	2.1	-21.4492	1.004	1.3	2.392	27	1.6
83 09 22	1	6	23.22	0.5529	1.5	-21.4472	1.129	0.7	2.360	23	1.2
83 09 23	10	2	18.95	0.5565	2.2	-21.4440	0.993	1.8	2.410	28	1.8
83 09 23	11	2	21.05	0.5520	1.9	-21.4483	1.048	1.2	2.458	28	1.4
83 09 23	1	2	23.21	0.5461	1.7	-21.4540	0.930	0.9	2.484	24	1.4

DATE	Gr.	Obs.	UTM	UTRO-UTRO	W DE	UTRO-EAI	$\Delta\psi$	$W_{\psi}$	R	N	$W_{\tau}$
83 09 26	11	4	20.82	0.5398	1.9	-21.4605	1.071	1.2	2.434	27	1.5
83 09 26	1	4	23.11	0.5317	2.8	-21.4684	1.031	1.8	2.075	25	2.2
83 09 27	11	7	20.88	0.5274	1.9	-21.4730	1.040	1.1	2.471	25	1.5
83 09 27	1	7	23.01	0.5279	2.3	-21.4723	1.092	1.5	2.648	26	1.9
83 09 28	11	6	20.72	0.5264	2.0	-21.4740	1.015	1.3	2.766	28	1.5
83 09 28	1	6	22.90	0.5252	1.4	-21.4749	1.161	0.8	2.560	27	1.0
83 09 28	2	6	22.92	0.5360	1.4	-21.4639	0.960	1.0	2.536	26	1.1
83 10 03	11	6	20.39	0.5301	1.7	-21.4703	1.070	1.1	2.712	28	1.2
83 10 03	1	6	22.61	0.5332	2.3	-21.4669	1.074	1.4	2.653	28	1.7
83 10 03	2	6	24.80	0.5213	1.6	-21.4787	0.994	1.2	2.587	28	1.2
83 10 04	11	5	22.65	0.5384	1.2	-21.4711	1.067	0.7	2.592	20	1.4
83 10 12	11	6	19.82	0.5011	1.4	-21.4989	0.991	0.9	2.882	27	1.1
83 10 12	1	6	22.03	0.5022	2.1	-21.4978	1.036	1.3	2.488	27	1.6
83 10 12	2	6	24.21	0.5003	1.9	-21.4996	0.848	1.4	2.622	28	1.5
83 10 13	11	2	20.11	0.4986	1.5	-21.5019	0.819	0.8	2.358	17	1.8
83 10 13	1	2	23.95	0.5075	3.5	-21.4927	1.002	2.2	2.424	26	2.6
83 10 13	2	2	24.21	0.5041	2.1	-21.4959	0.975	1.7	2.317	26	1.9
83 10 18	11	6	19.41	0.4908	1.7	-21.5087	1.089	1.1	2.638	28	1.5
83 10 18	1	6	21.63	0.4959	1.4	-21.5044	1.258	0.9	2.846	28	1.0
83 10 18	2	6	23.81	0.5008	1.6	-21.4992	1.106	1.2	2.653	26	1.2
83 10 19	11	6	19.34	0.4855	1.6	-21.5150	0.961	1.0	2.502	28	1.2
83 10 19	1	6	21.56	0.5007	1.2	-21.4996	0.990	0.7	2.496	28	0.9
83 10 19	2	6	23.75	0.4885	0.9	-21.5116	0.972	0.7	2.659	28	0.7
83 10 20	11	4	19.42	0.4752	3.5	-21.5253	1.018	2.1	2.053	22	3.3
83 10 20	1	4	21.55	0.4795	1.3	-21.5207	1.021	0.8	2.112	25	1.1
83 10 20	2	4	23.69	0.4864	2.0	-21.5136	0.770	1.6	2.149	26	1.7