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TIME AND LATITUDE RESULTS OF OBSERVATIONS MADE AT MERATE OBSERVATORY WITH THE ASTROLABE FOR THE YEAR 1976

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Results of the observations made with the Astrolabe Danjon OPL no. 32 during 1976 are given. These 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 1976 are given. In the reductions, provisional CLIs ("corrections de lissage interne") are introduced, determined on the basis of data obtained until 1974.

The Merate Astrolabe has been functioning since the end of 1969. The results of previous years can be found in the references.

The physical time scale has been provided by a standard atomic Caesium clock since the 1st of March 1974.

The observational methods (Mazzoleni 1972) and computation techniques (Buffoni et al. 1975) are explained in former papers. Results are given in the FK4 system.

The results are reported in table 1, 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 groups' observation
Column 5: difference TUO-TUC reported at the TUM time
Column 6: weight of time determination
Column 7: difference TUO-TA1 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 star 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

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Table 1

Date	Gr	Obs	TUM	TUO–TUC	W Det	TUO–TA1	Δφ	Wφ	R	N	Wr
75 02 09	4	2	20.56	0.5668	2.2	-14.4335	0.705	1.5	2.268	23	2.1
76 02 09	5	2	22.96	0.5262	1.4	-14.4740	0.404	0.8	2.154	23	1.2
76 02 23	4	4	19.58	0.5710	1.2	-14.4295	0.448	1.0	2.304	21	1.4
76 02 23	5	4	22.05	0.5012	1.5	-14.4990	0.725	1.1	1.891	21	1.6
76 02 24	4	2	19.80	0.4819	0.8	-14.5186	0.669	0.8	2.400	21	1.0
76 02 24	5	2	21.92	0.4831	2.4	-14.5172	0.363	1.5	2.347	25	2.0
76 02 25	4	5	19.61	0.5010	1.8	-14.4995	0.768	1.8	2.245	20	2.3
76 02 25	5	5	21.86	0.5218	2.6	-14.4785	0.316	1.7	2.216	25	2.2
76 02 26	4	6	19.60	0.3542	0.4	-14.6463	0.342	0.3	2.543	16	0.5
76 02 26	5	6	21.67	0.4206	0.6	-14.5799	0 297	0.5	2.813	17	0.8
76 02 27	4	2	19.39	0.4984	1.8	-14.5021	0.403	1.8	2.090	24	1.9
76 02 27	5	2	21.71	0.4746	2.3	-14.5257	0.350	1.7	2.400	26	1.9
76 02 27	6	2	23.94	0.4831	2.3	-14.5169	0.671	1.1	2.451	23	1.9
76 03 01	4	5	19.24	0.5538	1.9	-14.4467	0.576	1.5	2.419	23	1.9
76 03 01	5	5	21.54	0.5357	2.5	-14.4646	0.439	1.5	2.161	24	2.1
76 03 01	6	4	23.76	0.4970	1.5	-14.5030	0.163	0.7	2.119	20	1.4
76 03 01	7	4	25.95	0.4981	1.5	-14.5019	0.347	0.8	2.286	15	2.2
76 03 02	4	2	19.20	0.5046	2.4	-14.4959	0.787	2.5	2.342	25	2.5
76 03 02	5	2	21.46	0.4778	2.0	-14.5225	0.512	1.3	2.487	26	1.6
76 03 17	5	6	20.62	0.3013	3.1	-14.6990	0.458	1.9	2.382	20	3.1
76 03 17	6	6	22.67	0.3220	1.7	-14.6783	0.501	0.7	2.151	24	1.2
76 03 24	5	4	19.96	0.4366	1.4	-14.5639	0.540	1.2	2.328	23	1.5
76 03 24	6	4	22.20	0.4444	3.6	-14.5558	0.487	1.7	2.046	26	2.6
76 03 24	7	4	24.43	0.4458	2.6	-14.5541	0.459	1.5	2.071	27	1.9
76 03 26	5	2	20.03	0.3975	1.9	-14.6024	0.320	1.3	2.975	21	1.9
76 03 26	6	2	22.08	0.3813	2.5	-14.6186	0.585	1.2	2.472	27	1.8
76 03 29	5	4	19.71	0.4253	3.4	-14.5752	0.448	2.4	2.406	28	2.6
76 03 29	6	4	21.89	0.4189	4.6	-14.5813	0.459	2.3	2.253	27	3.2
76 03 29	7	4	24.08	0.3998	2.7	-14.6002	0.498	1.6	2.355	28	1.9
76 03 30	5	2	19.68	0.4080	2.2	-14.5920	0.369	1.7	2.283	26	1.9
76 03 30	6	2	21.77	0.4038	2.2	-14.5962	0.443	0.9	2.234	26	1.5
76 03 30	7	2	23.97	0.4173	2.2	-14.5830	0.693	1.3	2.255	26	1.8
76 03 31	5	5	19.60	0.4152	2.1	-14.5851	0.409	1.4	2.354	27	1.6
76 04 01	5	6	19.65	0.4324	1.2	-14.5680	0.576	0.9	2.835	21	1.3
76 04 01	6	6	21.75	0.4868	1.1	-14.5136	0.349	0.6	3.004	23	1.0
76 04 05	5	5	19.45	0.4045	3.0	-14.6503	0.411	1.8	2.544	20	3.0
76 04 27	6	4	20.01	0.2998	2.1	-14.7650	0.844	0.9	2.812	22	1.7
76 05 03	7	2	21.65	0.3231	2.0	-14.7417	0.437	1.2	3.042	23	2.0
76 05 04	7	6	21.76	0.4525	1.9	-14.5479	0.872	1.1	3.325	26	1.5
76 05 04	8	6	23.71	0.4810	2.1	-14.5194	0.940	1.8	2.938	23	2.1
76 05 05	6	5	19.79	0.3082	2.8	-14.7566	0.318	1.3	2.773	16	3.2
76 05 05	7	5	21.65	0.3253	2.4	-14.7394	0.740	1.4	2.942	25	1.9
76 05 06	7	6	21.58	0.4761	3.1	-14.5242	1.048	1.7	3.151	25	2.5
76 05 06	8	6	23.63	0.4423	2.7	-14.5577	0.682	2.1	3.054	24	2.6
76 05 17	7	2	20.86	0.2782	5.0	-14.7221	0.813	2.5	2.963	23	4.2
76 05 17	8	2	22.98	0.2662	3.0	-14.7339	0.767	2.1	2.888	27	2.4
76 05 18	7	6	20.76	0.3439	0.8	-14.6565	0.867	0.4	3.224	21	0.8
76 05 24	7	5	20.39	0.2455	1.7	-14.7549	0.742	0.9	3.148	25	1.3
76 05 31	8	2	22.11	0.2186	2.0	-14.7816	0.821	1.3	3.156	24	1.7
76 06 07	8	5	21.59	0.2036	3.2	-14.7966	0.743	2.2	3.063	25	2.7
76 06 08	8	4	21.51	0.2230	1.6	-14.7773	0.781	1.0	2.791	17	2.0
76 06 09	8	2	21.42	0.2136	2.4	-14.7867	0.661	1.8	3.345	24	2.2
76 06 21	8	5	20.45	0.2310	1.3	-14.7694	0.736	1.3	2.762	13	2.9
76 07 23	9	2	20.75	0.2607	2.2	-14.7397	0.859	1.4	2.829	25	1.9
76 07 23	10	2	22.50	0.2875	0.8	-14.7127	1.269	0.9	2.349	12	1.8
76 07 29	10	6	22.59	0.2203	1.4	-14.7799	0.916	1.0	4.540	18	1.8
76 08 02	10	2	21.98	0.0507	1.6	-14.9495	1.155	1.4	2.869	17	2.3
76 08 04	10	5	22.20	0.0784	3.7	-14.9218	1.036	2.8	3.453	23	3.7
76 08 23	10	2	20.91	-0.0009	4.1	-15.0013	1.272	3.1	2.732	23	4.0
76 09 06	10	4	20.12	-0.0318	4.6	-15.0323	1.185	3.3	2.617	23	4.3
76 09 20	10	6	19.05	0.0360	1.3	-14.9646	0.848	1.0	2.782	20	1.5
76 09 20	11	6	21.21	0.0690	1.7	-14.9313	0.476	1.0	3.239	17	2.1
76 10 05	11	5	20.19	-0.1678	2.4	-15.1683	0.934	1.4	2.609	24	2.0
76 10 06	11	4	20.15	-0.1335	2.0	-15.1339	1.143	1.2	2.587	26	1.6
76 10 06	1	4	22.40	-0.1202	1.9	-15.1204	0.846	1.2	2.763	21	1.9
76 10 07	1	6	22.56	-0.1611	0.9	-15.1612	1.425	0.8	3.088	18	1.2
76 10 07	2	6	24.46	-0.0309	1.1	-15.0308	0.683	0.8	2.829	22	1.1
76 10 08	11	4	20.04	-0.1709	2.7	-15.1713	0.998	1.7	2.757	27	2.1
76 10 08	1	4	22.23	-0.1352	1.4	-15.1354	1.513	0.8	2.601	26	1.1
76 10 21	11	5	19.17	-0.2173	2.7	-15.2178	0.927	1.7	2.679	25	2.3
76 10 21	1	5	21.14	-0.1856	1.7	-15.1859	1.082	0.6	2.859	16	1.9
76 10 22	11	2	19.11	-0.2289	1.4	-15.2294	1.123	1.0	2.753	25	1.2
76 10 22	1	2	21.39	-0.2381	1.8	-15.2384	0.992	1.1	2.813	24	1.5
76 11 05	11	4	18.29	-0.1799	1.5	-15.1806	1.445	0.9	3.015	20	1.6
76 11 05	1	4	20.41	-0.1961	2.8	-15.1965	1.307	1.3	3.064	23	2.3
76 11 05	2	4	22.52	-0.1659	1.7	-15.1661	1.280	1.0	3.003	22	1.6
76 11 14	2	2	21.99	-0.2796	2.6	-15.2798	1.128	1.9	2.621	28	2.1
76 11 14	3	2	24.13	-0.2726	1.9	-15.2726	0.892	1.2	2.882	28	1.4
76 11 15	1	6	19.62	-0.4520	4.2	-15.4525	1.314	2.3	3.798	17	5.1
76 11 15	2	6	21.89	-0.2462	0.8	-15.2464	0.797	0.5	2.816	21	0.8
76 11 16	1	5	19.64	-0.2802	3.3	-15.2807	0.999	1.9	2.711	26	2.5
76 11 16	2	5	21.88	-0.2621	3.7	-15.2624	0.762	2.5	2.645	27	3.0
76 11 17	1	4	19.60	-0.2913	1.7	-15.2917	0.725	1.0	2.447	26	1.3
76 11 17	2	4	21.81	-0.2479	4.1	-15.2481	0.896	2.7	2.333	25	3.5
76 11 17	3	4	23.90	-0.2559	2.9	-15.2559	0.808	1.7	2.270	25	2.3
76 11 19	1	2	19.48	-0.2740	2.2	-15.2745	1.096	1.4	2.811	28	1.6
76 11 19	2	2	21.61	-0.2342	1.8	-15.2345	1.143	1.4	3.172	23	1.8
76 11 22	1	5	19.25	-0.2532	2.5	-15.2537	0.640	1.1	2.916	23	2.0
76 11 24	1	4	19.18	-0.2712	1.6	-15.2717	0.713	1.0	2.466	25	1.3
76 11 24	2	4	21.37	-0.2583	2.6	-15.2586	0.959	1.9	2.329	26	2.2
76 11 24	3	4	23.31	-0.2501	3.9	-15.2501	0.663	2.0	2.160	20	3.9
76 12 03	2	2	20.72	-0.3267	2.0	-15.3268	1.005	1.5	2.542	27	1.6
76 12 03	3	2	22.90	-0.3481	3.1	-15.3481	0.765	1.8	2.542	26	2.4
76 12 08	2	2	20.38	-0.3815	2.5	-15.3816	0.823	1.7	2.696	25	2.2
76 12 11	2	2	20.19	-0.3694	3.1	-15.3695	0.849	2.1	2.801	26	2.5
76 12 11	3	2	22.29	-0.3774	1.8	-15.3775	0.662	1.2	2.792	24	1.6
76 12 13	1	4	17.96	-0.3546	3.5	-15.3547	0.654	2.3	2.503	26	2.8
76 12 13	2	4	20.12	-0.3338	2.3	-15.3339	0.906	1.6	3.311	27	1.8
76 12 13	3	4	22.22	-0.3760	2.6	-15.3761	0.877	1.6	2.253	26	2.0
76 12 15	2	5	19.91	-0.3114	2.4	-15.3114	0.543	1.4	2.676	23	2.1
76 12 23	2	2	19.40	-0.3946	2.4	-15.3951	0.885	1.6	2.635	25	2.0
76 12 23	3	2	21.56	-0.4124	3.7	-15.4126	0.664	2.1	2.634	26	2.8