Note on B. D. +21°535 and B. D. +20°621

Herk, G. van

Note on B. D. + 21°535 and B. D. + 20°621, by *G. van Herk*.

Prof. HERTZSPRUNG suggested to redetermine the proper motions of B.D. + 21°535 and B.D. + 20°621, both stars being suspected of belonging to the Pleiades. The first star belongs to the group.

The data used are given here: the catalogue and star number, the epoch, the position reduced to 1900, the systematic correction and the weight.

B.D. + 21°535

Catal.		ep. α	α 1900·0	corr.	w	ep. δ	δ 1900·0	corr.	w
			h m s	s			° ′ ″	″	
Piazzi III	166	1803	3 44 2·0	+ 0·15	0·05	1803	21 56 30·1	— 1·44	0·1
Taylor	1300	1832·98	2·16	— 0·09	0·15	1833·11	26·51	— 0·14	0·2
Edinb. '40	518	1837·95	2·13	— 0·04	0·20	1837·67	27·3	— 0·27	0·5
Glsg. '70	892	1868·30	2·22	— 0·02	0·15	1868·30	24·04	+ 0·17	0·25
Radc. 3	798	1872·0	2·26	— 0·03	0·50	1872·0	25·6	— 0·03	0·5
Berl. B.	1213	1880·0	2·23	— 0·01	2·0	1880·0	25·6	— 0·02	2·0
10 y	594	1883·91	2·239	+ 0·010	0·7	1883·91	24·18	+ 0·21	0·7
Pulk. Z.	102	1896·7	2·19	+ 0·03	1·0	1896·7	23·97	+ 0·04	1·0
Radc. '00	258	1898·7	2·23	+ 0·03	0·25	1898·7	24·4	— 0·51	0·7
Cinc. 3	691	1900·0	2·31	— 0·02	0·6	1900·0	23·8	— 0·38	0·5
Abb.	1756	1902·0	2·20	+ 0·01	1·0	1902·0	23·7	— 0·34	1·0
Mt. Ham.	475	1902·02	2·253	— 0·023	1·0	1902·02	24·04	— 0·20	1·0
Edinb. Z.	483	1902·45	2·239	+ 0·002	2·0	1902·45	24·08	0·00	1·5
Cape G.C.	557	1902·82	2·248	+ 0·001	2·0	1902·82	23·80	— 0·12	2·5
II 9 y	220	1903·25	2·237	— 0·009	1·0	1903·25	23·90	— 0·12	1·5
Könbg. B	532	1904·26	2·252	— 0·002	3·5				
Wash.	769	1904·67	2·224	+ 0·030	3·5	1904·67	24·38	— 0·72	3·5
Heid. Z.	475	1906·23	2·222	— 0·013	2·0	1906·23	23·97	— 0·09	1·5
Bruss.	428	1907·5	2·24	— 0·024	0·5	1907·5	24·6	— 0·22	0·4
Alb. '10	3120	1915·0	2·224	+ 0·005	2·5	1915·0	23·89	— 0·57	3·0
F.G.C.	407	1919·06	2·254	+ 0·004	3·0	1919·06	23·27	— 0·02	3·0

The results are, taking $\Delta t = $ t ep. — 1900 and ε the m.e. of the unit of weight:

α: $[w]$ 27·6 ; $[w\Delta t^2]$ 5392·72 ; $\varepsilon \pm 0^s{\cdot}028$; α_{1900} $3^h44^m2^s{\cdot}236$, mean ep. 1902·13 , μ_α + $0^s{\cdot}0012$ ± $0^s{\cdot}0004$ (m.e)

δ: $[w]$ 25·35; $[w\Delta t^2]$ 7387·94 ; $\varepsilon \pm 0''{\cdot}38$; δ_{1900} 21°56′24″·00 , mean ep. 1900·74 , μ_δ — $0''{\cdot}047$ ± $0''{\cdot}004$ (m.e.)

B.D. + 20°621

Catal.		ep. α	α 1900·0	corr.	w	ep. δ	δ 1900·0	corr.	w
			h m s	s			° ′ ″	″	
Lal.	6873	1793·8	3 38 38·3	+ 0·15	0·05	1793·8	20 36 47·6	— 1·50	0·10
Piazzi III	128	1803	38·9	+ 0·15	0·05	1803	48·8	— 1·50	0·15
Taylor	1249	1834·49	38·94	— 0·11	0·15	1834·28	47·22	— 0·17	0·2
Rümker	2678	1844·1	38·92	+ 0·04	0·10	1844·1	47·2	+ 0·55	0·2
Pulk. M.	532	1856·4	38·90	— 0·01	0·25	1856·4	46·4	+ 0·32	0·7
Radc. 3	769	1867·5	38·94	— 0·03	0·50	1867·4	47·4	— 0·03	0·5
9 y	343	1871·0	38·937	+ 0·004	1·5	1871·2	48·10	— 0·53	1·0
Quet.	1415	1875·0	38·91	+ 0·01	0·20	1873·45	46·15	+ 0·06	0·5
Berl. B.	1118	1880·0	38·95	— 0·005	2·0	1880·0	47·0	+ 0·14	2·0
Paris 3	4400	1880·5	39·10	+ 0·01	0·20	1880·5	46·5	— 0·15	0·3
10 y	573	1882·94	38·874	+ 0·011	0·70	1882·94	45·89	+ 0·24	0·6
Wash. 2	750	1883·84	38·90	— 0·03	0·60	1883·84	46·7	— 0·29	0·7
II 10 y	1142	1893·26	38·911	+ 0·028	1·5	1893·25	45·79	0·00	1·5
Radc. '00	245	1898·62	38·92	+ 0·03	0·7	1898·62	46·7	— 0·51	0·7
Edinb. Z.	467	1899·96	38·939	+ 0·002	2·0	1899·96	46·35	+ 0·01	2·0
Cinc. 3	678	1900·0	39·00	— 0·019	0·6	1900·0	46·6	— 0·39	0·5
Mt. Ham. X	459	1902·01	38·987	— 0·022	1·0	1902·01	46·16	— 0·21	1·0
Cape G.C.	533	1902·15	38·994	+ 0·001	2·0	1902·15	45·37	0·00	2·5
II 9 y	208	1902·93	38·998	— 0·009	0·7	1902·93	46·43	— 0·11	1·5
Wash. IX	740	1904·60	38·908	+ 0·029	3·5	1904·60	46·65	— 0·75	3·5
Könbg. B	515	1904·76	38·972	— 0·002	3·5				
Abbad.	1660	1905·5	38·95	+ 0·00	1·0	1905·5	45·6	— 0·32	1·0
Heid. Z.	459	1906·18	39·008	— 0·014	2·0	1906·18	46·39	— 0·10	1·5
Alb. '10	3027	1909·9	38·960	+ 0·004	2·5	1909·9	46·37	— 0·61	3·0

The results are:

α: $[w]$ 27·3 ; $[w\Delta t^2]$ 6213·26 ; $\varepsilon \pm 0^s{\cdot}075$; α_{1900} $3^h38^m38^s{\cdot}958$, mean ep. 1896·56 , μ_α + $0^s{\cdot}0014$ ± $0^s{\cdot}0009$ (m.e.)

δ: $[w]$ 25·65; $[w\Delta t^2]$ 8896·14 ; $\varepsilon \pm 0''{\cdot}37$; δ_{1900} 20°36′46″·05 , mean ep. 1894·36 ; μ_δ — $0''{\cdot}023$ ± $0''{\cdot}004$ (m.e.)

Most of the systematic corrections applied to each catalogue were taken from the appendix of the *P.G.C.* and the extension to these tables given by Roy. Some other catalogues contain the comparison with the Boss system. For the remaining catalogues I am indebted to Dr. HINS for putting his tables at my disposal.