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

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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			[°] ['] ["]	["]	
Piazzì 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
Gls. '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:

$\alpha: [w] 27'6; [w\Delta t^2] 5392'72; \epsilon \pm 0^s.028; \alpha_{1900} 3^h44^m25^s.236$, mean ep. 1902'13, $\mu_\alpha + 0^s.0012 \pm 0^s.0004$ (m.e.)
 $\delta: [w] 25'35; [w\Delta t^2] 7387'94; \epsilon \pm 0^s.38; \delta_{1900} 21^o56'24''00$, mean ep. 1900'74, $\mu_\delta - 0^s.047 \pm 0^s.004$ (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
Piazzì 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:

$\alpha: [w] 27'3; [w\Delta t^2] 6213'26; \epsilon \pm 0^s.075; \alpha_{1900} 3^h38^m38^s.958$, mean ep. 1896'56, $\mu_\alpha + 0^s.0014 \pm 0^s.0009$ (m.e.)
 $\delta: [w] 25'65; [w\Delta t^2] 8896'14; \epsilon \pm 0^s.37; \delta_{1900} 20^o36'46''05$, mean ep. 1894'36; $\mu_\delta - 0^s.023 \pm 0^s.004$ (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.