

ERRATUM: “STELLAR DIAMETERS AND TEMPERATURES. III. MAIN SEQUENCE A, F, G, AND K STARS: ADDITIONAL HIGH-PRECISION MEASUREMENTS AND EMPIRICAL RELATIONS” (2013, *ApJ*, 771, 40)

TABETHA S. BOYAJIAN^{1,2}, KASPAR VON BRAUN^{3,4}, GERARD VAN BELLE⁵, CHRIS FARRINGTON⁶, GAIL SCHAEFER⁶, JEREMY JONES¹, RUSSEL WHITE¹, HAROLD A. MCALISTER¹, THEO A. TEN BRUMMELAAR⁶, STEPHEN RIDGWAY⁷, DOUGLAS GIES¹, LASZLO STURMANN⁶, JUDIT STURMANN⁶, NILS H. TURNER⁶, P. J. GOLDFINGER⁶, AND NORM VARGAS⁶

¹ Center for High Angular Resolution Astronomy and Department of Physics and Astronomy,

Georgia State University, P.O. Box 4106, Atlanta, GA 30302-4106, USA

² Department of Astronomy, Yale University, New Haven, CT 06511, USA

³ NASA Exoplanet Science Institute, California Institute of Technology, MC 100-22, Pasadena, CA 91125, USA

⁴ Max Planck Institute for Astronomy, Königstuhl 17, D-69117 Heidelberg, Germany

⁵ Lowell Observatory, Flagstaff, AZ 86001, USA

⁶ The CHARA Array, Mount Wilson Observatory, Mount Wilson, CA 91023, USA

⁷ National Optical Astronomy Observatory, P.O. Box 26732, Tucson, AZ 85726-6732, USA

Received 2014 March 27; published 2014 May 6

We correct erroneous *JHK* magnitudes for stars that appear in Table 7 of the published article. These photometric values were improperly transformed from Two Micron All Sky Survey (2MASS) *JHK* to Johnson *JHK* photometric systems due to improper reads of data columns. The method used to perform the photometric transformations described in Section 3 of the published article remains correct.

This erratum presents a new version of the entire Table 7, with the corrections incorporated (values marked with a footnote “c”). We also identify a handful of stars that Table 7 did not have, but should have had; footnotes printed in Table 7 are indicative of transformed 2MASS photometry. The stars with missing footnotes apply to only the *H* magnitudes (with the exception of HD 11964), as published *JK* magnitudes in the Johnson system were available for the majority of the stars. These *H* magnitudes, which were also transformed improperly, are also corrected within this erratum (values marked with a footnote “d”). Last, we correct an error in the Johnson *H* magnitude of HD 186408, where both the transformation and the original input value were incorrect in the previously published Table 7 (value marked with a footnote “e”). Corrected values are also highlighted in bold type so the reader may easily identify the changes made.

Several versions of color- T_{eff} relations are presented in the paper (Table 8). The resulting coefficients to the color- T_{eff} relations without 2MASS colors are *not* affected by these conversion errors (those marked in Table 8 with a footnote “d”). This holds true even concerning the stars with missing markers in Table 7 (see above), as it was only a transcribing error in making Table 7, and they were properly removed in the analysis. There is no statistically significant change in the results for color- T_{eff} relations that include the transformed *JHK* magnitudes ($V - J$, $V - H$, $V - K$, $R_J - J$, $R_J - H$, $R_J - K$, $R_C - J$, $R_C - H$, $R_C - K$, $R_K - J$, $R_K - H$, $R_K - K$, $g - J$, $g - H$, and $g - K$), and the scatter of these solutions remain much larger than the solutions derived omitting stars with 2MASS *JHK* magnitudes (those marked in Table 8 with a footnote “d”).

Table 7
Photometry Used in Color- T_{eff} Relations

Star	<i>B</i>	<i>V</i>	<i>R_J</i>	<i>I_J</i>	<i>J</i>	<i>H</i>	<i>K</i>	<i>R_C</i>	<i>I_C</i>	<i>R_K</i>	<i>I_K</i>	<i>g</i> ^a	<i>r</i> ^a	<i>i</i> ^a	<i>z</i> ^a	<i>W3</i> ^b	<i>W4</i> ^b
166	6.89	6.14	...	...	4.79 ^c	4.66 ^c	4.35 ^c	...	...	...	...	6.42	5.86	5.67	5.62	4.33	4.12
3651	6.71	5.86	5.21	4.82	4.48	4.03	3.97	...	...	5.52	5.25	6.27	5.66	5.44	5.35	3.93	3.91
4614	4.02	3.44	2.94	2.58	2.35	2.02	1.96	...	...	3.30	3.08	...	...	...	...	...	...
5015	5.35	4.82	4.34	4.04	3.85	3.56	3.54	...	...	...	...	...	...	...	...	3.50	3.46
6210	6.38	5.84	...	...	4.81 ^c	4.83 ^c	4.48 ^c	...	...	...	...	6.08	5.71	5.58	5.55	4.46	4.43
9826	4.64	4.10	3.64	3.35	3.17	2.99	2.85	...	...	...	...	...	...	...	...	2.88	2.84
10476	6.08	5.24	4.55	4.12	3.85	3.44	3.21	...	...	4.87	4.58	5.68	5.04	4.84	4.75	3.09	3.31
10697	6.99	6.26	...	...	4.98	4.66	4.58	...	...	...	...	6.57	6.07	5.93	5.88	4.64	4.58
10700	4.22	3.50	2.88	2.41	2.16	1.72	1.68	3.06	2.68	3.16	2.90	...	...	...	...	2.07	1.67
11964	7.24	6.42	...	...	5.08 ^{c,d}	4.64 ^{c,d}	4.53 ^{c,d}	5.96	5.56	...	...	6.83	6.23	6.01	5.94	4.53	4.48
16765	6.23	5.71	...	...	4.65 ^c	4.65 ^c	4.55 ^c	...	...	...	...	5.99	5.66	5.56	5.56	4.54	4.45
16895	4.62	4.13	3.67	3.37	3.34	3.07	2.98	...	...	3.94	3.76	...	...	...	...	2.89	2.84
19373	4.65	4.05	3.52	3.23	3.06	2.73	2.69	...	...	3.83	3.63	4.30	3.93	3.78	3.76	2.70	2.64
19994	5.63	5.06	...	...	4.23 ^c	3.76 ^c	3.79 ^c	4.72	4.41	...	...	5.33	4.98	4.86	4.85	3.66	3.64
20630	5.52	4.84	4.27	3.91	3.71	3.35	3.34	4.46	4.12	4.57	4.35	5.14	4.66	4.51	4.46	3.33	3.24
21019	6.90	6.20	...	...	4.97 ^c	4.59 ^c	4.45 ^c	...	...	...	...	6.52	6.04	5.90	5.84	4.42	4.38
22484	4.85	4.28	3.79	3.47	3.29	3.01	2.92	3.95	3.64	...	...	4.54	4.19	4.08	4.07	2.94	2.85
23249	4.46	3.54	2.82	2.32	1.96	1.52	1.40	3.02	2.59	3.15	2.83	3.98	3.32	3.12	3.05	1.46	1.38
30652	3.65	3.19	2.77	2.51	2.35	2.15	2.07	2.92	2.66	3.05	2.89	3.34	3.05	2.98	2.98	2.17	2.08
34411	5.33	4.71	4.18	3.86	3.62	3.33	3.28	...	...	4.45	4.25	...	...	...	...	3.28	3.22
38858	6.61	5.97	...	...	5.33 ^c	4.61 ^c	4.44 ^c	...	...	...	...	6.23	5.78	5.65	5.62	4.42	4.33
39587	5.00	4.41	3.90	3.59	3.34	3.04	2.97	...	...	4.16	3.96	4.66	4.29	4.15	4.13	2.91	2.87
48737	3.79	3.36	2.97	2.74	2.57	1.81 ^{c,d}	2.30	...	...	...	...	3.47	3.22	3.18	3.19	2.17	2.24
48915	-1.46	-1.46	-1.46	-1.43	-1.34	-1.33	-1.31	-1.45	-1.44	-1.25	-1.13	...	...	...	...	0.50	-1.33

Table 7
(Continued)

Star	<i>B</i>	<i>V</i>	<i>R_J</i>	<i>I_J</i>	<i>J</i>	<i>H</i>	<i>K</i>	<i>R_C</i>	<i>I_C</i>	<i>R_K</i>	<i>I_K</i>	<i>g^a</i>	<i>r^a</i>	<i>i^a</i>	<i>z^a</i>	<i>W3^b</i>	<i>W4^b</i>
49933	6.16	5.77	...	...	4.91	4.71	4.67	...	...	...	...	5.93	5.71	5.67	5.70	4.67	4.58
56537	3.70	3.58	3.46	3.41	3.60^c	3.49^c	3.58^c	...	...	3.64	3.69	3.58	3.69	3.85	3.98	3.32	3.31
58946	4.50	4.18	3.86	3.67	3.58	3.34	3.36	...	...	...	...	4.23	4.13	4.14	4.19	3.28	3.23
61421	0.79	0.37	-0.05	-0.28	-0.40	-0.56	-0.64	0.12	-0.12	0.26	0.12	...	...	...	...	1.15	-0.65
69897	5.61	5.14	...	...	4.17	3.94	3.91	...	...	...	...	5.32	5.07	5.03	5.04	3.89	3.89
75732	6.80	5.94	...	...	4.59	4.14	4.07	...	...	...	...	6.38	5.73	5.54	5.46	4.06	4.01
81937	4.00	3.67	3.33	3.15	3.01	3.04^{c,d}	2.82	...	...	...	...	...	...	...	...	2.84	2.75
82328	3.64	3.18	2.74	2.47	2.28	2.03	2.02	...	...	...	...	...	...	...	...	1.88	1.94
82885	6.18	5.41	4.79	4.42	4.14	3.77	3.70	...	...	5.06	4.80	5.78	5.22	5.04	4.99	3.63	3.60
86728	6.01	5.35	...	...	4.33^c	4.06^c	3.86^c	...	...	...	...	5.69	5.24	5.11	5.08	3.86	3.82
90839	5.36	4.84	4.36	4.08	3.84	3.58	3.54	...	...	4.64	4.48	5.02	4.70	4.61	4.61	3.56	3.54
95418	2.35	2.37	2.31	2.35	2.35	2.37^{c,d}	2.35	...	...	...	...	...	...	...	...	2.23	2.11
97603	2.68	2.56	2.43	2.40	2.33	2.27	2.27	...	...	...	...	...	...	...	...	2.46	2.31
101501	6.08	5.34	4.73	4.37	4.02	3.61	3.60	...	...	5.01	4.74	5.64	5.13	5.00	4.95	...	...
102647	2.22	2.14	2.08	2.06	2.03	1.99	1.99	...	...	2.18	2.24	2.20	2.29	2.45	2.59	1.70	1.67
102870	4.15	3.60	3.12	2.84	2.63	2.35	2.33	3.28	2.99	3.39	3.23	3.86	3.50	3.41	3.37	2.31	2.28
103095	7.20	6.45	5.79	5.34	4.95	4.44	4.40	...	...	6.05	5.76	...	...	...	...	...	...
109358	4.86	4.27	3.73	3.42	3.23	2.85	2.84	...	...	4.01	3.80	4.52	4.14	3.99	3.99	2.59	2.78
114710	4.84	4.26	3.77	3.47	3.22	2.95	2.89	...	...	4.05	3.84	4.51	4.14	3.99	3.97	2.94	2.81
117176	5.69	4.98	4.37	3.98	3.65	3.26	3.24	...	...	4.68	4.44	5.30	4.83	4.67	4.61	3.24	3.19
118098	3.50	3.38	3.31	3.25	3.18	3.05	3.06	3.32	3.26	...	...	...	...	...	...	3.03	3.07
120136	4.98	4.50	4.09	3.85	3.61	3.40	3.35	...	...	...	...	4.72	4.44	4.36	4.37	3.33	3.29
121370	3.26	2.68	2.24	1.95	1.70	1.38	1.37	...	...	2.45	2.25	...	...	...	...	1.38	1.37
126660	4.56	4.06	3.64	3.39	3.10	2.86	2.82	...	...	...	...	4.26	3.98	3.90	3.91	2.61	2.78
128167	4.84	4.47	4.13	3.94	3.65	3.50	3.49	...	...	...	...	4.59	4.43	4.43	4.49	3.49	3.44
128620	0.69	0.00	...	...	-1.15	-1.38	-1.49	-0.35	-0.68	-0.30	-0.52	...	...	...	...	-1.96	-1.84
128621	2.25	1.35	...	...	-0.01	-0.49	-0.60	...	...	0.91	0.67	...	...	...	...	...	...
130948	6.41	5.85	...	...	4.79	4.53	4.48	...	...	...	...	6.14	5.76	5.61	5.62	4.47	4.41
131156	5.31	4.54	3.91	3.48	3.01	2.59	2.57	...	...	...	...	...	...	...	...	2.89	2.83
136202	5.60	5.06	4.65	4.38	4.40^c	3.93^c	4.05^c	4.75	4.44	4.92	4.75	5.33	5.00	4.90	4.90	3.76	3.68
140538	6.57	5.88	...	...	4.65^c	4.00^c	4.33^c	5.48	5.12	...	...	6.19	5.74	5.61	5.58	4.17	4.14
141795	3.86	3.70	3.62	3.57	3.62^c	3.44^c	3.47^c	3.65	3.58	...	...	3.74	3.82	3.93	4.01	3.49	3.44
142860	4.34	3.86	3.37	3.13	2.93	2.64	2.65	...	...	3.67	3.53	...	...	...	...	2.71	2.63
146233	6.14	5.51	...	...	4.73^c	4.15^c	4.23^c	5.13	4.79	...	...	5.84	5.38	5.26	5.23	3.99	3.97
150680	3.46	2.81	2.30	1.98	1.70	1.34	1.30	...	...	2.56	2.33	...	...	...	...	1.48	1.35
157214	6.00	5.38	4.87	4.53	4.22	3.86	3.84	...	...	...	...	5.33	5.00	4.90	4.90	3.82	3.79
158633	7.19	6.43	...	...	5.03^c	4.64^c	4.55^c	...	...	...	...	6.79	6.19	5.97	5.90	4.52	4.48
161797	4.17	3.42	2.89	2.51	2.18	1.81	1.77	...	...	3.12	2.88	3.75	3.19	3.01	2.95	1.65	1.75
162003	5.01	4.58	4.20	3.97	3.70	3.47	3.43	...	...	...	...	4.75	4.53	4.50	4.53	3.46	3.39
164259	5.01	4.62	4.29	4.10	3.87	3.70	3.67	4.40	4.18	...	...	4.75	4.60	4.62	4.66	3.69	3.64
168151	5.49	5.09	...	...	4.11	3.88	3.85	...	...	...	...	5.17	4.94	4.90	4.93	3.86	3.82
173667	4.65	4.19	3.80	3.54	3.30	3.08	3.04	...	...	...	...	4.42	4.15	4.11	4.14	3.00	3.02
173701	8.38	7.54	...	...	6.14^c	5.75^c	5.71^c	...	...	...	...	7.96	7.34	7.12	7.03	5.69	5.66
175726	7.29	6.71	...	...	5.76^c	5.42^c	5.39^c	...	...	...	...	...	...	...	...	5.32	4.75
177153	7.77	7.20	...	...	6.20^c	5.93^c	5.87^c	...	...	...	...	7.49	7.11	6.97	6.95	5.85	5.80
177724	3.00	2.99	2.98	2.98	2.93	3.07^{c,d}	2.92	...	...	3.10	3.17	2.91	3.14	3.34	3.49	2.90	2.94
181420	7.01	6.57	...	...	5.80^c	5.56^c	5.55^c	...	...	...	...	6.77	6.54	6.49	6.53	5.57	5.46
182572	5.94	5.16	...	...	3.84	3.55	3.49	...	...	...	...	5.51	4.93	4.73	4.67	3.53	3.50
182736	7.82	7.01	...	...	5.57^c	5.13^c	5.06^c	...	...	...	...	7.50	6.86	6.65	6.55	5.05	4.98
185395	4.86	4.47	4.12	3.91	3.75	3.73^{c,d}	3.52	...	...	...	...	4.64	4.50	4.54	4.57	3.47	3.40
186408	6.59	5.95	5.50	5.17	4.91	4.75^{c,d,e}	4.52	...	...	...	...	6.20	5.79	5.63	5.59	4.44	4.41
186427	6.86	6.20	5.76	5.42	5.04	4.69^{c,d}	4.65	...	...	...	...	6.48	6.05	5.90	5.86	4.69	4.66
187637	8.04	7.53	...	...	6.60^c	6.35^c	6.32^c	...	...	...	...	7.75	7.46	7.37	7.38	6.32	6.36
188512	4.58	3.72	3.06	2.57	2.26	1.71	1.71	3.26	2.83	3.35	3.04	4.12	3.48	3.29	3.20	1.54	1.50
190360	6.42	5.70	...	...	4.45	4.11	4.05	...	...	...	...	6.08	5.55	5.38	5.33	4.09	4.04
190406	6.41	5.80	...	...	4.74^c	4.43^c	4.43^c	...	...	...	...	6.07	5.69	5.54	5.55	4.38	4.35
195564	6.33	5.65	...	...	4.36^c	3.88^c	4.04^c	5.28	4.92	...	...	6.00	5.50	5.36	5.31	3.97	3.95
198149	4.35	3.43	2.76	2.27	1.90	1.50^{c,d}	1.28	...	...	3.02	2.69	3.86	3.21	3.00	2.92	1.20	1.19
206860	6.53	5.94	...	...	4.85^c	4.59^c	4.60^c	...	...	...	...	6.22	5.84	5.69	5.70	4.56	4.49
210027	4.20	3.76	3.36	3.11	2.98	2.71	2.66	...	...	...	...	3.96	3.70	3.66	3.68	2.37	2.61
210418	3.62	3.55	3.50	3.46	3.38	3.38	3.33	3.49	3.44	...	...	...	...	...	...	3.32	3.29
213558	3.78	3.77	3.77	3.80	3.89^c	3.87^c	3.90^c	...	...	...	...	...	...	...	...	3.79	3.74
215648	4.69	4.19	3.76	3.45	3.22	3.08^{c,d}	2.92	...	...	...	...	4.42	4.14	4.06	4.07	2.94	2.89
216956	1.25	1.16	1.10	1.08	1.02	1.05	0.97	1.10	1.08	1.24	1.30	1.32	1.40	1.49	1.58	0.93	0.82
217014	6.17	5.50	4.96	4.62	4.36	4.03	3.99	...	...	...	...	5.77	5.32	5.19	5.16	3.93	3.91
217107	6.90	6.16	...	...	5.01^c	4.78^c	4.57^c	...	...	...	...	6.52	5.99	5.82	5.78	4.53	4.52

Table 7
(Continued)

Star	<i>B</i>	<i>V</i>	<i>R_J</i>	<i>I_J</i>	<i>J</i>	<i>H</i>	<i>K</i>	<i>R_C</i>	<i>I_C</i>	<i>R_K</i>	<i>I_K</i>	<i>g^a</i>	<i>r^a</i>	<i>i^a</i>	<i>z^a</i>	<i>W3^b</i>	<i>W4^b</i>
218396	6.24	5.98	...	...	5.46	5.30	5.28	...	...	...	...	6.05	5.97	5.99	6.04	5.22	4.87
219623	6.10	5.58	...	...	4.93^c	4.63^c	4.37^c	...	...	...	...	5.85	5.52	5.42	5.42	4.30	4.20
222368	4.64	4.13	3.69	3.38	3.36^c	2.98^c	2.99^c	3.84	3.55	3.94	3.75	4.35	4.07	3.99	4.00	2.87	2.88
222603	4.72	4.51	4.33	4.23	4.10	4.22^{c,d}	4.00	4.39	4.28	...	...	4.55	4.61	4.72	4.80	...	...

Notes. Tablemarks c–e all indicate corrected material presented in this erratum. Photometry sources include Johnson et al. (1966, 1968), Epps (1972), Glass (1974, 1975), Guetter (1977), Blackwell et al. (1979, 1990), Noguchi et al. (1981), Sandage & Kowal (1986), Arribas & Martinez Roger (1989), Aumann & Probst (1991), Alonso et al. (1994), Sylvester et al. (1996), Mermilliod (1997), Ducati (2002), Cousins (1980), Kron et al. (1957), and Wright et al. (2010).

^a Average from Ofek (2008) and Pickles & Depagne (2010).

^b The *WISE* *W3* and *W4* magnitudes have been filtered to only allow values that have not reached saturation limits (*W3* < 3.8 mag and *W4* < −0.4 mag).

^c 2MASS magnitudes converted to the Johnson system.

^d Missing label in original Table 7.

^e Incorrect input value (*H* = 4.44) was used to derive the value in original Table 7.

We thank Cameron Bell for bringing the error in the photometric conversions to our attention and Eric Mamajek for enlightening discussions with respect to the results.

REFERENCES

- Alonso, A., Arribas, S., & Martinez-Roger, C. 1994, *A&AS*, **107**, 365
 Arribas, S., & Martinez Roger, C. 1989, *A&A*, **215**, 305
 Aumann, H. H., & Probst, R. G. 1991, *ApJ*, **368**, 264
 Blackwell, D. E., Petford, A. D., Arribas, S., Haddock, D. J., & Selby, M. J. 1990, *A&A*, **232**, 396
 Blackwell, D. E., Shallis, M. J., & Selby, M. J. 1979, *MNRAS*, **188**, 847
 Cousins, A. W. J. 1980, *SAAOC*, **1**, 166
 Ducati, J. R. 2002, *yCat*, **2237**, 0
 Epps, E. A. 1972, *RGOB*, **176**, 127
 Glass, I. S. 1974, *MNSSA*, **33**, 53
 Glass, I. S. 1975, *MNRAS*, **171**, 19
 Guetter, H. H. 1977, *AJ*, **82**, 598
 Johnson, H. L., MacArthur, J. W., & Mitchell, R. I. 1968, *ApJ*, **152**, 465
 Johnson, H. L., Mitchell, R. I., Iriarte, B., & Wisniewski, W. Z. 1966, *CoLPL*, **4**, 99
 Kron, G. E., Gascoigne, S. C. B., & White, H. S. 1957, *AJ*, **62**, 205
 Mermilliod, J. C. 1997, *yCat*, **2168**, 0
 Noguchi, K., Kawara, K., Kobayashi, Y., et al. 1981, *PASJ*, **33**, 373
 Ofek, E. O. 2008, *PASP*, **120**, 1128
 Pickles, A., & Depagne, É. 2010, *PASP*, **122**, 1437
 Sandage, A., & Kowal, C. 1986, *AJ*, **91**, 1140
 Sylvester, R. J., Skinner, C. J., Barlow, M. J., & Mannings, V. 1996, *MNRAS*, **279**, 915
 Wright, E. L., Eisenhardt, P. R. M., Mainzer, A. K., et al. 2010, *AJ*, **140**, 1868