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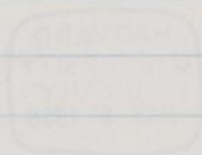




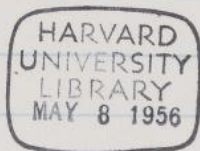








KG 11365.489































# Eye Estimation of Stellar Magnitudes Relative to Photometric Scale. Diary.

This record made by J. Razzer Edmunds.

Jan 1881. Commenced preparation about Jan 10.

System of standards adopted.—

"Blue Stars" of meridian photometer having special "blue-star-catalogue" numbers from to incl. adopted and given special "standard-star-catalogue" numbers from to incl.

Also those from to incl. of blue-star-catalogue adopted and given numbers from to incl.

"Black Stars" adopted and given standard star catalogue numbers 100 greater than those of black-star-catalogue, except when already numbers.

Also 4 additional stars, which together with Polaris give 5 polar stars are included in the standards. Their numbers are:—

In standard star catalogue. In general catalogue

105	$\alpha$ Usc. min.	199
[154]	51 Cephei	1222
156	$\lambda$ Usc. min.	3200
157	Usc. min.	1975

Prepared Catalogue of Standard Stars, giving also the name or constellation of the star and the general catalogue number.

Had sheets I & II of the *Heis Atlas* mounted. Set A & B.

Prepared check-list of standards and entered on <sup>I.a.</sup> ~~the~~ all that would go on it. Checked on check-list. Entered on II.a. all that would go on it that were not already on I.a. checking on the list. Entering on charts and checking of the list checked by Mr. Meade.

Had sheets IV, V, VI, VII of a., all the sheets of set b. and sheets I, II, III, IV, V, VI, VII of set c. similarly mounted.



<sup>Instructions</sup>  
Prepared ~~Prospective and Instructions~~ - 8 hektograph copies.

Feb. 4/81 Transferred from I copies from Ia upon IIa all standards that would go.

Work checked by Mr. Maass.

" 5/81 { Copies all brought along that would go upon IV, V, VI, + VII 40. Work checked by Mr. Maass Feb. 8.  
Copies upon I Ba and Ic the standard entries on Ia } Checked by Mr. Maass Feb. 8  
" " II b " II c " " " II a } Checked by Mr. Maass Feb. 5

Arranged the sheets of <sup>Instructions</sup> ~~Prospective and Instructions~~ <sup>paper cover and</sup> together with <sup>brace fastener</sup>. 4 sets. 10 pp. ea.

\* Feb. 7 The 4 copies of Instructions compared and corrected, and marked A, B, C, + D.  
Copy B has the correction in red ink, to be retained at Observatory.

Prepared "Additional Instructions" of this date.

Sent (with letter written <sup>and signed by the Director</sup> by Mr. Peabody)

to Mr. James C. Howard, 10 Atherton St., Egleston Square, Boston.

Chart II, Set a. with only standard stars numbered therein:—

Instructions, copy A.

Additional Instructions of Feb. 7:—

50 half sheets of paper, ~~and~~ 25 envelopes, and blanks for report of time.

Also sent ~~it~~ (with letter, 50 half sheets of paper <sup>and blanks</sup> and 25 envelopes, <sup>as above</sup>) 44

Chart II, copy Set C prepared as above:—  
to Mr. H. E. Wiggins, 11 Wyman St., Roxbury Mass.

Additional Instructions, copy C.

Additional Instructions of Feb. 7:—

Arranged copy E of Instructions, to contain fastened with it the Additional Instructions. It is intended that the respective copies should be sent as follows.

A - Mr. Howard. B - Observatory. C - Mr. Wiggins.

D - Mr. Edmunds. E - Prof. Pickering.



Feb. 8

*by rapid transfer* <sup>to chart - Mr. Mann.</sup> the standard stars from IV, V, VI + VII a to b+c.  
 Started general check-list of stars entered on charts.

Feb. 8

Having entered

Entered stars for general observation upon Chart-1 a (J.R.E.)

Copied upon 1c (Miss. Mann) and 1b (J.R.E.)

Having entered

Entered stars for general observation upon Chart (J.R.E.)

Having entered stars for general observation upon Chart-Vb, Miss. Mann was given the copying upon Va and Vc.

From the general check list of stars entered, observations charts were made from them as follows; —

For Chart-1 one set — partly by Mr. Cutler and partly by Miss. Mann

" " " two additional sets by Miss. Mann

" " V three sets by Miss. Mann

" standard stars, one set by Mr. Cutler

" " " two additional sets by Miss. Mann

Prepared list of Polar Stars and Bright Stars not on regular charts.

These <sup>polar</sup> stars are not included in the above observation charts.

Entered stars on IVb and VIb J.R.E.

Copied upon IVa+c and upon VIa+c by Miss. Mann.

Three copies of charts for Chart-IV and also for Chart-VI by Miss. Mann

General check list checked by Mr. Mann and J.R.E.

(together) for comparison in regard to all stars as given at north of equator in the "Catalogue of Stars" and in this. Had occasion <sup>Chapman</sup> to add to our list and charts several <sup>clusters</sup> nebulae.

Chart

Feb. 24, 1881 Mr. Wiggins called and took with him; —  
Chart Ic. Chart Vc.

22 pages obs<sup>n</sup> sheet for standards.

33 " " " " Chart-I.

22 " " " " " V.

*of changes to be made on*  
Memorandum ~~relative to~~ <sup>in the paper</sup> Observation Sheet of Mr. Wiggins.

On sheet for Chart V, mark 897 and 900 with an asterisk in red ink. At the foot of same page write —

\*Designated by one star on the chart. 897 is the mean 893.

On sheet for Chart VI, interpolate the following numbers of stars.

458    19593    20196    2182    2639    35586

To interpolate a number on a sheet; make a caret in the left-hand margin between the lines where it would occur in regular order. Then write the number on a separate line at the foot (or the head) of the same page.

On sheet for Chart I, change 2182 and 2639 to 2182a and 2639a respectively.

On sheet for standards draw a random line through the column of general catalogue numbers i. e. the left-hand column. The figures need not be mutilated, since they are not wrong; but they are not to be used.



*Of changes to be made on* <sup>in the base</sup> *Memoranda* ~~relating to~~ *Chart I* <sup>of</sup> *Mr. Wiggins* Mar 7, 1881

The numbers of the stars given below should be entered in red ink, ~~on the charts~~. <sup>on the</sup> ~~charts~~ <sup>of</sup> ~~declination~~ <sup>of</sup>  $780^\circ$  the whole number of the number is not placed against each star, but is to be sought in the margin.

Number of Star.	Star Chart.	Designation on Chart	Right Ascension.	Declination
19596	I	19596	$12^h 9^m$	$+47.8^\circ$
20196	I	196	$12^h 39^m$	$+37.0^\circ$
35586	I	5586	$21^h 27^m$	$+48.1^\circ$

If 21822 and 26392 on Chart I are designated 2182 and 2639 respectively, the a should be added, as there are 21826 and 26396 on other charts.

On account of the propriety of other stars, standards 3 and 44 should have their number enclosed in brackets similar to those used for [154].



Mr. Wiggins already has as per page 155

Mar. 16, 1881 Sent to Mr. Wiggins (letter written by Mr. Peake, and signed by Director)

Memoranda of Mar 7. as per p. p. 15 & 16.

Additional instructions of Mar 16.

Mar. 17, 1881 Sent to Mr. Howard by express

charts Ia, IVa, Va and VIa

22 Observation Sheet for Howard stars.

32 pages

22 pages obs. sheet for Howard

32 " " " " Chart I

15 " " " " " IV

22 " " " " " V

16 " " " " " VI

Mailed letter signed by Director.

Mar. 26, 1881

Sent to Mr. <sup>Wiggins</sup> Howard by express; -

charts IV and VI

15 pages Obs. Sheet for chart IV

16 " " " " " VI

Mailed postal card written by J.R.E.

Mar. 30, 1881

Sent to Messrs Howard and Wiggins, "Additional Instructions" of this date.

- Apr. ? Gillie out-charge IV B and XI B. J. R. E.  
 VII & XI are copied by Mr. Mann. Also other sheets for same.  
 II c receive from Mr. Wiggins and copied by Mr. Mann.
- Apr. 12 Sent to Messrs Wiggins & Howard notice to interpolate  
 2208 on observation sheets for Chart VI. (Postal card.)
- Apr. 13 Examined general check-list of entries on charts — found one omission  
 coupled with a mistake. Supplied and corrected on Chart VII a, b, & c,  
 and on corresponding sheets.  
 Prepared list (for Mann) of 15 higher standards not entered on the  
 regular charts (abstract from <sup>copy</sup> "List of Bright Standards and of Bright Stars  
 not on the regular charts.")  
 Prepared list of ~~above~~ standards printed each Observed.
- Apr. 14/81 Copied stars upon XI c (unmounted chart) J. R. E.
- Apr. 20/81 Sent to Messrs Wiggins & Howard notice to interpolate <sup>and 1611</sup> 2205<sub>N</sub> on observation sheets  
 for Chart VI. Postal card.
- May 3/81 Received from Mr. Wiggins  
 Obs<sup>n</sup> sheets 9 to 15 incl of Chart VI  
 Journals of series 1 to 5 incl. (sheets 1 to 5 incl.)  
 A letter of May 1 with suggestions.
- May 5 Acknowledged the above per postal card.
- May 16 Copied red stars upon Chart II a.
- May 17 Sent to Mr. Howard — "List of Bright Standards not entered on Regular Chart", "List of  
 printed stars each Observed", Charts II & VII (a), 16 observations for II, 24 observations for VII, 3 for XI
- Sent away  
 May 19. Sent to Mr. Wiggins the same (but Chart C). Also unmounted Chart XI c.



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20

May 19/81

Received from Mr. Wiggins.

Journal of series 6 (sheet 6 + sheet 6 + 7)

Obs. sheet 16 of chart 6

At Notified Messrs Wiggins & Howard to put the figure to star number 2372 on chart VI. Also to number f Leonis 1642 and erase the duplicate number from wrong star upon chart VI.

On VI B. J. R. E. found 2372 already numbered, but 1642 omitted from f Leonis and put upon star 1528, which is rightly figure upon VI B. (Error first pointed out by Mr. Wiggins)

May ?

Received packages of material from Mr. Wiggins.

June 11

Gave Mr. Chandler

charts 1c + 11c. Instructions. Additional instructions of Feb 7 & Mar 16, 1881 derive from the package returned by Mr. Wiggins. Suggested that he should make preliminary observations.

June 24 Sent Mr. Chandler sheets and charts to complete his set, except; - (those returned by Mr. Wiggins) certain sheets already filled by Mr. Wiggins and the Additional Instructions for Mar. 30.

July 9 Sent Mr. Howard a caution to <sup>enter</sup> ~~make~~ original observations on spec. sheets. And if heretofore he had recorded all in the journal, two copies in ink upon the sheets.



22

Aug 22

~~Observations~~ Sheets by J. G. Chandler Esq. received  
some days ago

Journals Series 1 to 13 incl, pages 1 to 18 incl.

Obs. sheets for Chart-7 Pages 11 to 19 completed.

By J. R. E.

Journal Series 1 to 9 incl Pages 1 to 9

~~By~~

Decided to add the following numbers to the  
series numbers used by the respective observers, thus  
making all part of one set.

J. R. Edmunds 100

J. E. Wiggins 300

G. H. Hornum 400

J. G. Chandler Jr. 600

800

Aug 24

Received Return from Mr. Chandler

Journals Ser. 14 & 15 pp 19 & 20

Obs. Chart-<sup>VII</sup> 7 pp 22 to 24 incl

Aug 26

Added 2906<sub>3228</sub> and 3046 on Chart VII C, they having been omitted by copyist.

Changed 3404 to 3405 on sheet for Chart VII for Chandler + Edmunds.

Notified Mr. Hornum to do the same.

Aug 30/81

Received of Mr. Hornum, returns as follows

Journals List 1 to 10 pp 1 to 12

Obs. Chart-1 pp 17 to 24 Chart-VII pp 9 to 22



Sept. 20/61 Received of Mr. Howard return as follows

Journal Ser 11 pp 13

Sheet of pls. Chart VII pp 23+24

" " IV " 1 to 3 incl.

Oct 2 Received from Howard. Jom. Ser. 12 to 17 incl. Chart 18 pp 4 to 7 incl.

Added star 3458 on Chart-Ic.

Nov 16 Several stars added on Set. C Charts II + IV. One mistake corrected.

Dec. 9 Called for return as follows from alloburne.

Chart-I pp 1 to 3 incl.

II 1 5

IV 7 15

Manuscript 1 3

Dec 20 Called for return to be received before Dec 26 as follows

Chart II pp 6 to 8 incl

" V " 1 to 3 "

Manuscript pp 4













[I-II] 133947 8blun-217a 244 273 286 218 292  
 12703- (72° 03' 51" 20) 1975- 3907  $3+50^{\circ}3$  190  
 142° 72.5' 2193 2966 2986 3004 3017 3130  
 3140 3183 3194 3208 3493 3762 3791 3838 3956  
 2633 for 2634E 4823 1882E 2945-2946a 1248a }  
 2946a-2947 1234-5  
 But for 1 2920, 2900, 3346, 3492a  
 Duple. I 3004, 3208,  
 Duple. 210  
 Duple+V 222 465 503  
 Duple V 357 413  
 Duple VI 2033

I 1529 on chart C. 3490 was written 4406 on chart C

V 512a 495 502 577L 719 1023 1248a 1485  
 1248a is 5 inches off 67.

1248a to be added to duplicate chart. check of chart I.

6357 - No. 5

on chart 448a 448a 448a

II 6357 932 932a; Add 932 on chart II and on chart.

III 334 334a 334b II

on chart 448a.

448a 379 to 374a on chart 448a chart for II Add 448 on chart IV and chart

Add 343b on chart II and chart On chart for V of weak relation to 897

6306

6306 to 6306 on chart V and chart 448a

Add 1079 on V and on chart.

1144 on V and on chart.

3420 343b ? to chart II and chart 448a

1133 on chart II 1133 368 do.

2100 on chart II

11 ? Between 2160a and 2180 and south.



to bag-II enclose 3 ~~and 44~~ in [ ]

195-96 to be added on chart I C and on sheet of Mr. Wiggins.

2208 should be added on sheet for VI of Wiggins & Howard. <sup>introduce</sup>  
Embodied in "Memoranda" of Mar 7/84 <sup>vol 1</sup>

2205

2208

46/7

2208 should be added as sheets for VT of Wiggins & Howell.

2391a changed to 2395 on chart VII

239/a paper marked on chart-VII





















1881phase, p. 480E