

KG
11366
v.619

*Polar Catalogue
Observations and Reductions
From Apr. 27 1885 to*

I	II	III
$u_{10} \approx 90$	$\begin{bmatrix} 1_{10} \approx 41 \\ 52 \approx 82 \end{bmatrix}$	$\begin{bmatrix} 2_{10} \approx 42 \\ 51 \approx 81 \end{bmatrix}$

	10	1	1	2
1	20	2	2	2
2	30	3	3	3
3	40	4	4	4
4	50	5	5	5
5	60	6	6	6
6	70	7	7	7
7	80	8	8	8
	90	9	9	9

Series
measures

NAME THOMAS
 NAME THOMAS
 CREDIT 100
 DED TO 100
 2
 R. 11.10

7 I II III

$$\begin{aligned} \text{Mantel} &= \\ \frac{m}{n} - \frac{m}{n} &= \\ (m - m) &= 0 \end{aligned}$$

$\frac{8+9+11+7}{4}$
 10y T'
 Col Forest
 10y Rain
 Run

Apr. 27 1886

 $\text{Sun.} + 81^{\circ} 34.3$
 $10^{\circ} 24' 13''$
 $+ 81^{\circ} 8'$
 $\text{Sun.} + 81^{\circ} 34.9$
 $10^{\circ} 31' 40''$
 $+ 81^{\circ} 3'$
 $\text{Sun.} + 79^{\circ} 7.50$
 $10^{\circ} 40' 20''$
 $+ 100^{\circ} 11'$
 Re. 1508
 $10^{\circ} 50' 48''$
 $+ 78^{\circ} 24'$

10. 23	32.1	36.5	40.7	31 30.4	35.2	39.0	42 34.3	37.9	41.6	50 21.2	24.4	27.8
	45.2	49.7	54.2		48.2	52.3		49.3	53.0		31.3	38.0
	58.2	2.8	6.9		1.0	5.1		5.3	5.0		41.3	48.0
	11.7	15.7	20.5		9.5	13.8		8.7	12.7		57.8	58.3
	24.4		22.8					20.5			3.0	
	38.3	34.2	29.3		31.7	27.4		28.0	23.7		12.4	8.8
	51.6	47.3	42.7		45.7	41.0		43.4	36.2		22.2	18.8
	5.0	0.4	5.0		2.6	5.8.0		5.6	4.7		32.3	28.8
	18.0	13.6	9.0		15.8	11.3		6.9	59.0		42.6	39.0
								3.0				35.8

25 35.9	26 52.6	29 45.0	33 29.3	35 39.3	40 8.7	45 38.3	48 29.4	51 52.4	53 23.2
37.0	1.7	54.2	44.3	47.3	17.5	38.6	39.6	52 0.5	29.7
38.2	3.0	7.9	50.7	54.6	30.8	45.4	47.8	7.7	35.6
39.5	6.0	19.2	58.7	3.0	36.8	52.7	53.0	16.4	41.7
40.4	7.8	27.5	6.4	8.5	49.5	6.0	2.5	21.5	49.3
41.6									

Apr. 27 - 1885

Rad. 2594
 $11^{\circ} 0' 46''$
 $+88^{\circ} 16'$

Gr. 1782
 $11^{\circ} 23' 45''$
 $+81^{\circ} 45'$

DM +89° 18'
 $11^{\circ} 30' 49''$
 $+89^{\circ} 34'$

DM +82° 74.3
 $11^{\circ} 50' 49''$
 $+97^{\circ} 27'$

10 58 48.8 59 12.9 59 36.1
 59 58.6 0 21.6 0 42.7
 1 6.7
 2 14.7 1 57.7 1 29.9
 3 22.6 2 58.1 2 36.1

21 44.5 49.3 54.0
 58.7 3.5 8.8
 13.0
 27.2 22.7 17.5
 41.5 36.7 31.5

26 50.7 28 21.5 29 49.5
 31 19.3
 34 16.6 33 18.7 32 40.4

50 19.7 25.2 30.5
 36.1 41.5 46.5
 51.4 57.5 2.9
 7.5 12.8 17.7
 23.5
 34.3 28.8
 10.9 5.9 16.3

57 41.9 3 47.7

18 47.6 20 21.6
 51.2 24.3
 54.3 26.5
 58.1 29.2
 1.0 32.6

35 30.6 37 21.5

47 38.5 52 31.4
 42.5 33.7
 58.5 39.8

Apr. 27/1885

Sp. 1852
 11 59.23
 +77.88'

44 H. Draco
 12 6.48
 +78.18'

Sp. 6
 12 9.43
 +103.42'

11	59	4.5	-	-
				20.3
		23.4	26.6	29.7
		32.9	36.5	39.3
		42.4		
		51.6	49.0	46.7
		1.3	58.2	55.0
		10.8	8.0	4.9
		20.2	17.4	14.0

9	27.0	30.0	32.8
	33.6	38.2	41.7
	44.4	47.6	50.4
	53.0	55.8	59.0
	2.8		
	9.9	7.4	4.5
	18.8	16.2	13.2
	27.8	24.8	22.2
	36.5	33.7	31.0

87 13.7 89 26.2
 22.0 29.0
 30.5 32.0
 49.0 55.7
 39.4

8 19.0 11 28.5
 23.6 33.3
 29.5 38.7
 36.6 44.6
 45.7 57.8

Apr. 30 - 1888

Rad. 2407
 $9^h 58^m 23^s$
 $+ 87^{\circ} 51'$

Dim. $+ 83^{\circ} 28'$
 $10^h 9^m 46^s$
 $+ 88^{\circ} 23'$

Dim. $+ 88^{\circ} 60'$
 $10^h 15^m 40^s$
 $+ 88^{\circ} 24'$

Dim. $+ 81^{\circ} 343'$
 $10^h 24^m 13^s$
 $+ 81^{\circ} 6'$

9				8	444	50.4	56.8					23	322	370	408
					2.6	8.2	13.9						45.4	49.4	54.0
57	20.3	36.3	55.5		20.6	26.2	32.2						58.4	2.7	7.4
58	12.7	31.0	49.3		37.7	43.7	49.7						11.8	16.2	20.6
59	8.6				55.7								23.0		
6	46	43.2	25.2		13.8	7.6	1.6	14 51.2	14 25.9	14 0.5			38.5	33.8	29.7
	58.0	40.2	23.6		31.2	25.8	20.0	16 8.6	15 44.1	15 18.5			57.7	47.0	42.8
					49.2	43.5	37.7	14 23.7	16 58.5	16 32.8			5.3	0.8	56.0
					7.6	1.4	55.2	18 38.8	18 12.3	17 50.2			18.7	14.2	9.7

55 35.2 1 82.5

6 53.8 11 13.8
 57.5 27.3
 3.3 36.3
 6.4 48.6
 11.0 7.0

18 47.9

21 38.7 25 27.6
 40.5
 48.0
 58.0
 5.3

Apr. 30. 1888

 $\Delta m + 81^\circ 349$
 $10^h 31^m 40^s$
 $+81^\circ 3'$
 $\Delta m + 79^\circ 750$
 $10^h 40^m 30^s$
 $+100^\circ 11'$
 $\Delta m + 150^\circ 8$
 $10^h 50^m 43^s$
 $+78^\circ 23'$
 $\Delta m + 259^\circ 4$
 $11^h 0^m 46^s$
 $+88^\circ 16'$

10	31	30.6	35.0	38.0	42	345	38.6	42.4	52	34	56	36.6	57	19.8
		43.5	48.0	52.6		45.9	49.8	53.7		13.8	57	45.6	58	4.4
		57.3	12	5.6		57.7	2.0	5.8		23.7	58	50.6	59	11.8
		10.0	14.1	18.6		9.6	13.2	16.6		33.8	59	59.5	0	20.1
		23.1				21.0				44.5		1	6.2	0
		36.1	32.0	27.6		32.8	28.0	24.7			2	14.2	1	5.5
		49.3	45.0	40.3		44.3	40.2	37.0	51	22.9	3	21.0	2	5.4
		2.8	58.5	54.0		56.0	52.3	48.2		33.3	4	30.9	4	5.8
		16.0	11.7	7.0		8.0	3.7	5.9.7		42.7	25.9	36.3	5	14.7
										29.6	5	36.6	5	4.5.2.0

29 15.7 34 4.0
 29.7 12.5
 40.3 21.7
 52.3 33.2
 1.3 38.9

39 59.8 44 19.7 51 50.8 53 37.7
 3.7 28.2 59.5
 14.0 35.2 4.8
 23.6 43.6 12.0
 38.6 54.0 19.5

5 52.9 6 38.0
 +86° 15'

$\Delta 1782$
 $11^{\circ} 23' 41''$
 $+81^{\circ} 45'$

$\Delta m. +89^{\circ}$
 $11^{\circ} 30' 43''$
 $+89^{\circ} 14'$

$\Delta \text{Cap.}$
 $11^{\circ} 34' 38''$
 $+103^{\circ} 1'$

$\Delta m. +82^{\circ} 743$
 $11^{\circ} 50' 49''$
 $+97^{\circ} 29'$

11	23	8.5	8.4	12.8		
		17.7	22.5	27.2		
		32.8	37.2	41.7		
		46.8	51.4	55.8		
		1.0				
		15.0	9.9	5.7	27 52.8	27 42.7
		29.3	24.6	20.0		
		43.4	38.0	34.5		
		58.4	53.5	48.8		

35	8.8	35 52.2	50	20.0	25.3	30.8
	12.3	0.9		35.8	41.0	46.3
	15.3	$A + 10.3$		51.4	57.4	2.7
	18.1	19.2		7.6	13.2	17.7
	21.0	28.3		23.4		
	24.3			39.3	34.3	29.0
	27.8			54.8	50.0	44.8
	30.5			11.0	5.7	0.3
	33.8			27.0	21.2	16.0

$\Delta 135$
 24.4
 33.4
 43.4
 52.0

30 36.5

$\Delta 36$
 38.7
 45.3
 52.4
 58.3
 5.4

$\Delta 48$
 40.0
 52.2
 8.5
 16.0
 32.7

Apr. 30 1885

$\Delta m. +81^{\circ} 38.9$
 $11^{\circ} 54' 18.3$
 $+81^{\circ} 29'$

$\Delta 185.2$
 $11^{\circ} 59' 23.3$
 $+77^{\circ} 33'$

$4H \text{ Draeg.}$
 $12^{\circ} 6' 48.5$
 $+78^{\circ} 15'$

$3p. 6$
 $12^{\circ} 9' 43.3$
 $+103^{\circ} 41'$

59	50	82	114	6	26.7	30.4	33.8	9	27.2	30.3	33.0
	143	17.4	20.6		37.5	40.7	44.2		35.8	38.7	42.0
	24.0	27.0	30.0		47.8	51.0	54.0		44.2	47.4	50.4
	33.4	36.4	39.6		57.1	0.7	4.2		53.0	56.3	58.9
	43.0				7.6				1.8		
	53.0	49.6	46.0		17.2	13.8	10.9		10.4	7.7	4.7
	2.3	58.9	56.0		27.6	24.2	20.6		19.2	16.1	13.5
	11.8	8.5	5.4		37.8	34.5	31.0		28.0	25.3	22.2
	21.2	18.2	15.2		48.2	44.4	41.2		36.5	33.8	31.0

Chap. 2. 1885

0	253	1	240	4	29.0	8	30.3	10	54.7
	20.5		25.2		36.5		38.5		3.2
	27.6		26.5		43.0		46.0		11.7
			28.0		54.2		55.0		20.7
			29.5		1.5		1.7		29.0

May 2-1886

 $\Delta M + 83^\circ 28'$
 $10^\circ 9' 46''$
 $+83^\circ 23'$
 $\Delta M + 88^\circ 60'$
 $10^\circ 15' 40''$
 $+88^\circ 27'$
 $\Delta M + 81^\circ 77'$
 $10^\circ 23' 46''$
 $+88^\circ 30'$
 $\Delta M + 81^\circ 349'$
 $10^\circ 31' 40''$
 $+81^\circ 3'$

8	42.8	49.1	55.3
	0.6	7.3	12.8
	18.6	25.2	30.6
	36.3	42.6	48.8
	54.5		
	12.7	6.6	0.3
	30.3	25.0	18.6
	48.2	42.8	36.7
	6.6	0.6	54.3

23	17.3	21.2	25.8	31	30.8	34.6	38.9
	30.3	35.0	39.0		43.5	47.7	52.1
	44.0	48.5	53.4		56.5	0.8	5.0
	57.3	2.3	6.5		9.0	14.2	18.6
	11.2				22.7		
	25.0	20.3	15.7		36.3	31.7	27.3
	38.7	34.2	29.7		49.3	44.7	40.7
	52.2	48.0	43.7		2.7	58.4	54.0
	6.3	14	56.8		15.9	11.4	6.7

11	11.4
	12.4
	13.4
	14.5
	15.5

22	15.7	26	31.3
	25.0		37.8
	36.5		46.3
	46.3		56.2
	59.2		8.3

29	50.0	23	23.4
	50.8		34.3
	51.7		43.1
			50.6
			0.2

May 2 1885

 $\Delta m + 80^{\circ} 731$
 $10^{\circ} 39' 0''$
 $+ 99^{\circ} 16'$
 $\Delta m + 82^{\circ} 703$
 $10^{\circ} 47' 42''$
 $+ 97^{\circ} 28'$
 $\Delta B. 6 H. Cephei$
 $10^{\circ} 54' 15''$
 $+ 96^{\circ} 46'$
 $\Delta m + 82^{\circ} 325$
 $11^{\circ} 1' 1''$
 $+ 82^{\circ} 22'$

10	38	38.7	42.4	46.6
		51.0	54.4	59.2
		3.7	8.3	12.5
		16.7	21.2	25.3
		29.7		
		42.3	38.2	34.0
		55.0	51.0	46.8
		8.1	4.0	5.7
		21.2	16.3	11.7

May 2 1885

 $\Delta m + 81^{\circ} 450$
 36 52.5 41 24.0
 30 31.8
 13.4 40.3
 22.7 48.5
 41.2 38.2

 $\Delta B. 6 H. Cephei$
 $12^{\circ} 03' 11''$
 $+ 74^{\circ} 21'$
 $\Delta m + 82^{\circ} 325$
 $13^{\circ} 12' 30''$
 $+ 71^{\circ} 18'$

$\Delta m + 86^{\circ} 170$
 $11^{\circ} 26' 54''$
 $+ 86^{\circ} 16'$

γ Cephei
 $11^{\circ} 34' 38''$
 $+ 103^{\circ} 11'$

$\Delta m + 82^{\circ} 748$
 $11^{\circ} 54' 18''$
 $+ 97^{\circ} 40'$

$\Delta m + 86^{\circ} 170$
 $11^{\circ} 58' 51''$
 $+ 86^{\circ} 16'$

May 2- 1885-

$$\begin{array}{r} 4 \text{ H Draco} \\ 12^{\text{h}} 6^{\text{m}} 48^{\text{s}} \\ + 78^{\circ} 15' \end{array}$$
$$\begin{array}{r} \text{Bo. 6.} \\ 12^{\text{h}} 9^{\text{m}} 43^{\text{s}} \\ + 103^{\circ} 41' \end{array}$$
$$\begin{array}{r} \text{Bo. 1682} \\ 12^{\text{h}} 14^{\text{m}} 21^{\text{s}} \\ + 88^{\circ} 21' \end{array}$$
$$\begin{array}{r} \text{Dra} + 79^{\circ} 10' \\ 12^{\text{h}} 19^{\text{m}} 15^{\text{s}} \\ + 100^{\circ} 39' \end{array}$$

Dec +81° 400 -
12^h 30^m 34^s
+88° 51'

43 H Cephei
12^h 53^m 11^s
+94° 21'

Dec +81° 412
12^h 58^m 20^s
+81° 30'

May. 2 1885

Polaris
13° 16' 36"
+ 91° 18'

May 3 - 1886

 $\Delta m + 72^{\circ} 228'$
 $10^h 3^m 17^s$
 $+79^{\circ} 40'$ 29 H. Camelopard
 $10^h 12^m 45^s$
 $+84^{\circ} 50'$ 30 H. Camelopard
 $10^h 16^m 58^s$
 $+83^{\circ} 9'$ $\Delta m + 81^{\circ} 773'$
 $10^h 23^m 46^s$
 $+98^{\circ} 50'$

May 3-1885

$$\begin{array}{r} \text{Dec. } +80^{\circ} 431 \\ 10^{\text{h}} 39^{\text{m}} 8^{\text{s}} \\ +99^{\circ} 16' \end{array}$$

$$\begin{array}{r} \text{Dec. } +82^{\circ} 403 \\ 10^{\text{h}} 47^{\text{m}} 42^{\text{s}} \\ +97^{\circ} 28' \end{array}$$

$$\begin{array}{r} 36 \text{ H Cephei} \\ 10^{\text{h}} 58^{\text{m}} 14^{\text{s}} \\ +96^{\circ} 16' \end{array}$$

$$\begin{array}{r} \text{Dec. } +82^{\circ} 325 \\ 11^{\text{h}} 1^{\text{m}} 1^{\text{s}} \\ +82^{\circ} 22' \end{array}$$

$\Delta m + 86^{\circ} 140$
 $11^{\circ} 26' 54''$
 $+ 86^{\circ} 15'$

γ Cephei
 $11^{\circ} 34' 38''$
 $+ 103^{\circ} 1'$

$\Delta m + 81^{\circ} 389$
 $11^{\circ} 54' 18''$
 $+ 81^{\circ} 29'$

$\Delta m + 80^{\circ}$
 $11^{\circ} 58' 54''$
 $+ 86^{\circ} 13'$

May 3- 1883

$$\begin{array}{r} 4^h 48^m \\ 12^h 6^m 48^s \\ + 78^s 15^s \end{array}$$
$$\begin{array}{r} Ba. 6 \\ 12^h 9^m 43^s \\ + 103^s 41^s \end{array}$$
$$\begin{array}{r} Ba. 1642 \\ 12^h 14^m 21^s \\ + 88^s 21^s \end{array}$$
$$\begin{array}{r} Da. + 79^s 10^s \\ 12^h 19^m 13^s \\ + 100^s 39^s \end{array}$$

Dm +81° 400
12^h 30^m 37^s
+80° 81'

43 H *Cephei*
12^h 53^m 11^s
+94° 21'

Polaris -
13^h 16^m 36^s
+91° 18'

May 9-1883

 $29^h 4^m$ Camelopard
 $10^h 12^m 44^s$
 $+84^{\circ} 50'$ $30^h 11^m$ Camelopard
 $10^h 16^m 58^s$
 $+83^{\circ} 9'$ $31^h 8^m 30^s$
 $10^h 21^m 30^s$
 $+96^{\circ} 6'$ $32^h 8^m 13^s$
 $10^h 24^m 0^s$
 $+91^{\circ} 10'$

Dec. $+84^{\circ} 51'$
 $10^h 58^m 50^s$
 $+25^{\circ} 14'$

Rad. 2594
 $11^h 0^m 46^s$
 $+88^{\circ} 16'$

Dec. 1782
 $11^h 23^m 41^s$
 $+81^{\circ} 45'$

39 # Camelop.
 $11^h 24^m 50^s$
 $+93^{\circ} 20'$

May 9-1885

 γ Cephei
11^h 34^m 38^s
+103° 1'Deneb +82° 48'
11^h 54^m 18^s
+97° 40'Sp. 1832
11^h 59^m 23^s
+77° 33'4 H. Deneb
12^h 6^m 48^s
+78° 15'

Br. 1656
12^h 13^m 26^s
+87° 4'

G. 1923
12^h 37^m 34^s
+84 16

G. 1927
12^h 41^m 29^s
+81° 16'

β^2 Camelopard.
12^h 48^m 15^s
+84 3

May 9.

32 Camelopardalis
12^h 48^m 44^s
+84° 3'

DM +79° 40'
12^h 57^m 1^s
+79° 6'

43 H Cephei
12^h 58^m 11^s
+94° 21'

DM +81° 41'
12^h 58^m 20^s
+81° 30'

44 *H. Cybri*
13^h 2^m 22^s
+100° 56'

44 *H. Cybri*
13^h 8^m 2^s
+99° 44'

Polaris
13^h 16^m 36^s
+91° 18'

May 10 - 1883

 $\Delta m + 84^{\circ} 57'$
 $10^h 53^m 50^s$
 $+ 93^{\circ} 14'$ $\Delta d 2954$
 $11^h 0^m 46^s$
 $+ 88^{\circ} 16'$ $\Delta 1782$
 $11^h 23^m 41^s$
 $+ 81^{\circ} 45'$ $39 H \Delta m$
 $11^h 27^m 50^s$
 $+ 93^{\circ} 20'$

Mrs. Spence
11^h 54^m 18^s
+97° 40'

B. 1852
11^h 58^m 23^s
+77° 33'

4 H. Deneb
12^h 6^m 48^s
+78° 15'

B. 1656
12^h 13^m 26^s
+87° 4'

May 10 - 1883

 $\begin{array}{l} B. 48 \\ 12^h 37^m 8^s \\ +98^\circ 8' \end{array}$ $\begin{array}{l} G. 1923 \\ 12^h 34^m 34^s \\ +84^\circ 16' \end{array}$ $\begin{array}{l} G. 1924 \\ 12^h 41^m 29^s \\ +81^\circ 15' \end{array}$ $\begin{array}{l} 3274 Cameloq \\ 12^h 45^m 13^s \\ +84^\circ 3' \end{array}$

32 H Canis
12^h 48^m 13^s
+84° 13'

3m +79° 40'
12^h 57^m 13^s
+79° 6'

43 H Canis
12^h 53^m 13^s
+94 21

44 H Cygni
13^h 2^m 22^s
+108 56

May 10 - 1885

$$\begin{array}{r} D_{\text{M}} + 80^{\circ} 36' \\ 13^{\text{h}} 8^{\text{m}} 2^{\text{s}} \\ + 99^{\circ} 44' \end{array}$$
$$\begin{array}{r} \text{Polaris} \\ 13^{\text{h}} 16^{\text{m}} 36^{\text{s}} \\ + 91^{\circ} 18' \end{array}$$

May 11 - 1885

$$\begin{array}{r} \Delta \alpha + 841^{\circ} 57' \\ 10 \quad 53 \quad 50 \\ + 25^{\circ} 14' \end{array}$$
$$\begin{array}{r} \gamma \text{ Mus. Min} \\ 11 \quad 34 \quad 38 \\ + 103^{\circ} 1' \end{array}$$
$$\begin{array}{r} \delta \text{ 185-2} \\ 11 \quad 59 \quad 23 \\ + 77^{\circ} 33' \end{array}$$
$$\begin{array}{r} 4 \text{ H. Draco.} \\ 12 \quad 6 \quad 48 \\ + 78^{\circ} 15' \end{array}$$

May 11 - 1885

$$\begin{array}{r} \text{Br. 6} \\ 12^{\text{h}} 9^{\text{m}} 43^{\text{s}} \\ +103^{\circ} 41' \end{array}$$
$$\begin{array}{r} \text{Br. 48} \\ 12^{\text{h}} 31^{\text{m}} 8^{\text{s}} \\ +98^{\circ} 8' \end{array}$$
$$\begin{array}{r} \text{Br. } +86^{\circ} 182 \\ 12^{\text{h}} 34^{\text{m}} 34^{\text{s}} \\ +86^{\circ} 21' \end{array}$$
$$\begin{array}{r} \text{Br. 274} \\ 12^{\text{h}} 44^{\text{m}} 10^{\text{s}} \\ +96^{\circ} 53' \end{array}$$

Im +72° 24
12^h 49^m 58^s
+100° 6'

43 H Cylin
12^h 53^m 11^s
+94° 21'

Ok 89° 22
12^h 56^m 39^s
+89° 1'

L 2006
13^h 6^m 48^s
+88° 14'

May 11-1885

Lolani
13^h 16^m 36^s
+ 91° 1'

1885phae.proj.1034