

KG

11366

v.842

















July 14. 1909. (Wednesday)

Double Star (new list) = Bezanham's Cat. 10930.

21 16 +61.4

16 23

---

-4 +3

+7 7



July 14, 1909  
Index Right + Below

34.0

51.5

Clouds

208.5

241.0

8<sup>h</sup> 48<sup>m</sup> 35<sup>s</sup>

Index

July 14, 1909-

4

15.  
July 14. (Thursday)

U Senti.

$$\begin{array}{r}
 12 \ 51 \quad -13.0 \\
 16 \ 51 \\
 \hline
 -2 \ 0
 \end{array}$$

$$\begin{array}{r}
 17 \ 3 \\
 -1 \ 42 \\
 10 \ 12
 \end{array}$$



July 17. 1909. (Saturday).

Double Star (new list) = Burnham's Cat. 446A.  
W. obs. Cocconan rec.

12 46 + 33.2 Phot. W.  
16 4  
- 2 42 P.A. 150 Dist. 46.

9 1st  
Index Left + Below

8<sup>h</sup> 12<sup>m</sup> 40<sup>sec.</sup>

302.0 ← 20.0 ✓ Var. dis.

322.0

123.1

140.6  $\frac{17.5}{37.5}$  ✓ 3.91 ✓

302.9

322.6

19.7 ✓

3.24

122.5

142.8

$\frac{20.3}{40.0}$  ✓

3.77 ✓

Index Right + Above

210.4

231.8

21.4 ✓

33.0

51.7

$\frac{18.7}{40.1}$  ✓

3.76 ✓

212.7

231.6

18.9 ✓

3.72 ✓

31.7

52.5

$\frac{20.2}{39.7}$  ✓

3.79 ✓

mean 3.21 ✓

L. A. P.

## Halley's Comet.

<u>Mean Anomaly</u>	<u>Ec. Anom.</u> $a = 0.96$	<u>Ec. Anom.</u> $a = 0.97$	<u>Ec. Anom.</u>
0°	0.000	0.000	
5	41.310	42.665	
10	55.126	56.166	
15	64.742	65.622	
20	72.441	73.207	
25	78.992	79.677	
30	84.776	85.392	
35	90.004	90.574	
40	94.210	95.336	
45	99.223	99.770	
50	103.427	103.940	
55	107.467	107.290	
60	111.260	111.653	
65	114.294	115.262	
70	112.329	112.733	
75	121.765	122.026	
80	125.036	125.337	
85	122.216	122.497	
90	131.314	131.576	
95	134.340	134.523	
100	137.301	137.522	
105	140.204	140.415	
110	143.052	143.252	
115	145.265	146.043	
120	142.632	142.793	
125	151.362	151.510	
130	154.060	154.194	





## Halley's Comet.

Mean Anomaly	Eccen. Anom. $e = 0.96$	Eccen. Anom. $e = 0.97$		
135°	156.730	156.249		
140	159.375	159.421		
145	161.992	162.090		
150	164.603	164.621		
155	167.193	167.252		
160	169.770	169.222		
165	172.336	172.377		
170	174.294	174.920		
175	177.449	177.462		
180	180.000	180.000		
185				
190				
195				
200				
205				
210				
215				
220				
225				
230				
235				
240				
245				
250				
255				
260				





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Halley's Comet.

Mean Anomaly.	Eccen. Anom.	Eccen. Anom.		
	$e = 0.96$	$e = 0.97$		
265°				
270				
275				
280				
285				
290				
295				
300				
305				
310				
315				
320				
325				
330				
335				
340				
345				
350				
355				
360				

















## Halley's Comet.

	For mean anom. 5°	For mean anom. 10°	For mean anom. 15°	For mean anom. 20°
$\log \cos E$				
" $e$				
Sum.				
$e \cos E$				
$1 - e \cos E$				
$\log(1 - e \cos E)$				
" $h$				
$(E)$				
$\frac{1}{2} E$				
$\log \tan \frac{1}{2} E$				
" $\sqrt{\frac{1+e}{1-e}}$				
" $\tan \frac{1}{2} v$				
$\frac{1}{2} v$				
$v$				



[illegible]

## Halley's Comet.

	For mean Anom. 45°	For mean Anom. 50°	For mean Anom. 55°	For mean Anom. 60°
--	-----------------------	-----------------------	-----------------------	-----------------------

Log cos $\delta$				
------------------	--	--	--	--

" $z$				
-------	--	--	--	--

Sum				
-----	--	--	--	--

$z \cos \delta$				
-----------------	--	--	--	--

$1 - z \cos \delta$				
---------------------	--	--	--	--

Log $(1 - z \cos \delta)$				
---------------------------	--	--	--	--

" $r$				
-------	--	--	--	--

$(\delta)$				
------------	--	--	--	--

$\frac{1}{2} \delta$				
----------------------	--	--	--	--

Log $\tan \frac{1}{2} \delta$				
-------------------------------	--	--	--	--

" $\sqrt{\frac{1+e}{1-e}}$				
----------------------------	--	--	--	--

" $\tan \frac{1}{2} v$				
------------------------	--	--	--	--

$\frac{1}{2} v$				
-----------------	--	--	--	--

$v$				
-----	--	--	--	--



For mean known.	For mean known.	For mean known.	For mean known.
65°	70°	75°	80°

## Halley's Comet.

	For Mean Anom. 25°	For Mean Anom. 90°	For Mean Anom. 95°	For Mean Anom. 100°
$\log \cos \delta$				
" $e$				
$\sin$				
$e \cos \delta$				
$1 - e \cos \delta$				
$\log(1 - e \cos \delta)$				
" $r$				
$(\delta)$				
$\frac{1}{2} \delta$				
$\log \tan \frac{1}{2} \delta$				
" $\sqrt{\frac{1+e}{1-e}}$				
" $\tan \frac{1}{2} v$				
$\frac{1}{2} v$				
$v$				

## Halley's Comet.

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For Mean Anom. 105°	For Mean Anom. 110°	For Mean Anom. 115°	For Mean Anom. 120°
------------------------	------------------------	------------------------	------------------------



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Halley's Comet.

For mean Anom. 125°	For mean Anom. 130°	For mean Anom. 135°	For mean Anom. 140°
------------------------	------------------------	------------------------	------------------------

 $\log \cos \delta$ "  $e$  $\sin$  $e \cos \delta$  $1 - e \cos \delta$  $\log(1 - e \cos \delta)$ "  $r$  $(\delta)$  $\frac{1}{2} \delta$  $\log \tan \frac{1}{2} \delta$ "  $\sqrt{\frac{1+e}{1-e}}$ "  $\tan \frac{1}{2} v$  $\frac{1}{2} v$  $v$

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[illegible]

## Halley's Comet.

For Mean Anom.	For Mean Anom.	For Mean Anom.	For Mean Anom.
$165^\circ$	$170^\circ$	$175^\circ$	$180^\circ$
$\log \cos \epsilon$			
" $a$			
$\sin$			
$a \cos \epsilon$			
$1 - a \cos \epsilon$			
$\log(1 - a \cos \epsilon)$			
" $r$			
$(\epsilon)$			
$\frac{1}{2} \epsilon$			
$\log \tan \frac{1}{2} \epsilon$			
" $\sqrt{\frac{1+\epsilon}{1-\epsilon}}$			
" $\tan \frac{1}{2} v$			
$\frac{1}{2} v$			
$v$			

$\log \cos \epsilon$   
 "  $a$   
 $\sin$   
 $a \cos \epsilon$   
 $1 - a \cos \epsilon$   
 $\log(1 - a \cos \epsilon)$   
 "  $r$   
  
 $(\epsilon)$   
 $\frac{1}{2} \epsilon$   
 $\log \tan \frac{1}{2} \epsilon$   
 "  $\sqrt{\frac{1+\epsilon}{1-\epsilon}}$   
 "  $\tan \frac{1}{2} v$   
 $\frac{1}{2} v$   
 $v$











1909phae.proj.1244.