

gezeichnete Fackeln sein mussten, nämlich die Verschiedenheit der Strömungsgeschwindigkeit, welche bei № 93 und dem folgenden Flecken № 95 stattfand. Da zwischen № 95 und dem in weitem Abstände folgenden № 97 der Unterschied der Geschwindigkeit nicht bedeutend ist, so dürften

bei № 95 auf der dem Flecken № 93 zugekehrten Seite, indessen nicht auf der entgegengesetzten Seite, ausgezeichnete Fackeln gewesen sein.

Anclam, 1862 Nov. 30.

G. Spoerer.

Observations of Comet II. 1862, made at the Observatory of Hamilton College.

By Dr. C. H. F. Peters, Director.

In the present communication I give only the determinations of position of the comet, leaving the observations upon the interesting physical phenomena, which it has exhibited, for another occasion. Only this much I must preface, that the peculiar aspect of the nucleus, carrying in close contact a bright fan-like jet, probably will prove to have caused con-

siderable „personal“ differences in the positions as determined by telescopes of different size. Smaller telescopes usually have seized for pointing a center farther away from the top of the jet, where the real nucleus of comparatively small bulk was residing, and on the whole, therefore, they will assign for the comet a place nearer to the sun.

1862	Ham. Coll. M. T.	$\Delta \alpha$	$\Delta \delta$	№ of Comp.	α	δ	$\log p^{\mu} \Delta$ in α	$\log p^{\mu} \Delta$ in δ	Comp. star
July 25	12 ^h 26 ^m 54 ^s .7	+ 4 ^m 57 ^s .01	— 0 ^m 29 ^s .7	8	5 ^h 36 ^m 43 ^s .14	+ 70 ^m 16 ^s 51 ^s .1	1,1277 _n	0,7818	a
26	12 49 46,2	+ 7 34,52	— 1 23,0	4	5 39 12,05	70 43 3,7	1,1770 _n	0,7438	b
30	11 10 15,1	+ 1 19,10	+ 1 23,1	10	5 51 13,26	72 37 14,3	0,9980 _n	0,8457	c
31	11 26 24,4	+ 1 13,04	+ 1 43,6	10	5 55 11,12	73 10 6,7	1,0640 _n	0,8299	d
Aug. 1	10 53 27,6	— 0 45,29	— 1 33,5	10	5 59 29,84	73 43 39,2	0,9590 _n	0,8533	e
2	11 46 10,0	— 3 25,49	— 0 25,0	8	6 5 43,05	74 20 30,6	1,1419 _n	0,8074	f
3	10 52 52,4	+ 5 30,50	+ 3 3,5	8	6 10 13,21	74 56 28,3	0,9770 _n	0,8502	g
6	13 51 7,5	— 5 1,32	— 3 58,9	8	6 34 55,30	77 4 25,5	1,4036 _n	0,5939	h
8	12 17 51,8	— 5 39,53	+ 1 2,8	6	6 58 36,37	78 31 3,7	1,2805 _n	0,7818	i
9	13 40 50,3	+ 12 21,06	— 1 38,6	2	7 16 8	79 20	1,4416 _n	0,6668	k
10	10 3 40,5	+ 0 0,65	+ 3 21,3	12	7 33 14,10	79 57 47,0	0,2836	0,8563	l
11	9 14 20,6	+ 2 14,14	+ 1 23,2	6	7 57 11,59	80 39 11,9	1,1298	0,8290	m
12	9 23 43,9	— 9 3,86	— 0 31,9	8	8 28 32,69	81 17 45,4	1,2423	0,8132	n
13	10 55 37,0	+ 5 15,58	— 2 53,8	8	9 9 48,26	81 48 10,1	0,9327	0,8401	o
15	10 35 4,1	— 1 6,91	— 7 2,2	8	10 46 34,21	81 52 37,2	1,4424	0,7540	p
16	9 17 6,0	+ 1 54,85	— 0 33,0	8	11 35 13,66	81 19 54,6	1,5904	0,4868	q
18	9 52 2,6	— 3 41,88	— 2 25,6	8	13 3 37,37	78 43 12,7	1,5003	0,3292	r
19	9 14 52,4	— 1 28,04	+ 0 52,2	8	13 35 20,20	76 47 15,4	1,4353	9,7722	s
21	9 39 10,0	— 1 47,30	+ 0 57,4	10	14 22 16,87	71 30 7,6	1,2882	9,8602	t
23	11 6 18,1	— 3 27,93	— 0 9,2	8	14 53 17,24	64 16 45,8	1,1580	0,4860	u
24	9 43 27,3	+ 0 33,71	+ 0 23,6	10	15 3 39,37	60 21 3,3	1,0839	0,1112	v
26	8 34 28,4	— 1 7,39	— 1 49,3	6	15 20 18,18	51 3 3,9	0,9047	9,8828	w
29	10 14 12,0	+ 1 22,33	— 1 20,1	8	15 37 56,80	33 47 29,1	0,8668	0,6086	x
30	10 57 6,3	+ 0 52,93	+ 1 12,1	10	15 42 22,52	27 40 28,8	0,8499	0,7026	y
31	9 36 9,2	— 0 23,02	— 0 17,7	12	15 45 57,47	22 7 12,4	0,7965	0,6194	z
Sept. 2	9 57 10,7	— 0 35,64	+ 0 1,5	12	15 52 23,26	10 52 57,3	0,7864	0,7303	aa
4	9 55 59,6	+ 0 1,01	+ 1 2,3	12	15 57 31,62	+ 1 4 30,7	0,7795	0,7625	bb
5	9 24 16,2	+ 1 43,80	— 0 14,8	9	15 59 42,18	— 3 9 12,1	0,7591	0,7747	cc
8	8 26 26,2	— 0 2,60	— 4 9,8	10	16 5 15,27	13 44 57,6	0,7133	0,8162	dd
9	8 21 1,7	+ 0 38,90	+ 0 42,6	10	16 6 49,98	16 39 20,7	0,7148	0,8244	ee
10	7 54 58,5	+ 3 54,06	— 1 41,3	8	16 8 17,84	19 14 53,0	0,6828	0,8401	ff
11	7 40 24,6	— 0 0,87	— 3 27,5	10	16 9 39,99	21 36 55,0	0,6666	0,8506	gg
14	7 43 17,2	+ 1 14,96	+ 0 21,2	12	16 15 51,42	— 27 32 49,3	0,7036	0,8568	hh

The mean places for 1862,0 of the comparison stars have been assumed as follows, no „systematic“ corrections having been applied for the various catalogues.

	α 1862,0	δ 1862,0	Authority
<i>a</i>	5 ^h 31 ^m 42 ^s .92	+70° 17' 29".8	9.10 ^m , det. resp. by 2 and 1 fil.-micr. comp. with
	5 23 8,43	70 16 6,1	Oeltz.-Arg. 5930 and
	5 31 57,07	70 11 48,7	Oeltz.-Arg. 6082
<i>b</i>	5 31 34,25	70 44 35,9	Oeltz.-Arg. 6071
<i>c</i>	5 49 50,72	72 36 1,6	Oeltz.-Arg. 6362
<i>d</i>	5 53 54,59	73 8 33,9	9.10 ^m , det. resp. by 2 and 1 fil.-micr. comp. with
	5 46 20,22	73 3 17,0	Oeltz.-Arg. 6305 and
	5 46 25,43	73 8 6,3	Oeltz.-Arg. 6308
<i>e</i>	6 0 11,61	73 45 23,8	Oeltz.-Arg. 6525
<i>f</i>	6 9 5,03	74 21 7,0	12 ^m , Dup. 11 seq. by filar-micr. comp. with
	6 36 18,73	74 17 5,4	Oeltz.-Arg. 7167
<i>g</i>	6 4 39,03	74 53 36,7	Radcliffe Cat. 1667
<i>h</i>	6 39 53,16	77 8 37,9	Radcl. 1813
<i>i</i>	7 4 12,69	78 30 15,1	Oeltz.-Arg. 7623
<i>k</i>	7 3 44	79 21	9 ^m , approximate, not yet determined.
<i>l</i>	7 33 10,76	79 54 40,6	10.11 ^m , det. by 3 fil.-micr. comp. with
	7 42 55,76	79 50 52,7	Radcl. 2040
<i>m</i>	7 54 55,31	80 38 4,0	11 ^m , det. by 2 filar-micr. comp. with
	7 33 17,32	80 35 58,3	Radcl. 2008.
<i>n</i>	8 37 35,38	81 18 35,7	Redhill Cat. 1265
<i>o</i>	9 4 32,80	81 51 18,8	Redhill Cat. 1338
<i>p</i>	10 47 44,29	81 59 50,6	Redhill Cat. 1622
<i>q</i>	11 33 22,50	81 20 36,4	Redhill Cat. 1741
<i>r</i>	13 7 22,40	78 45 40,65	9.10 ^m , det. by 1 filar-micr. comp. with
	13 42 6,41	78 45 18,8	Mean of Radcl. 3099 and Ö.-A. 14003, without proper motion
<i>s</i>	13 36 50,59	76 46 23,2	Ö.-Arg. 13910, Wien, Mer.-Obs. and fil.-m. comp. with Ö.-A. 13813
<i>t</i>	14 24 5,02	71 29 6,5	9.10 ^m , det. by 3 fil.-m. comp. from each of the following two:
	14 29 20,89	71 23 55,0	Ö.-Arg. 14691
	14 29 26,38	71 24 55,3	Ö.-A. 14692
<i>u</i>	14 56 44,84	64 16 49,0	Ö.-A. 15041
<i>v</i>	15 3 4,95	60 20 33,4	9 ^m , det. by 4 filar-microm. comp. with
	15 6 18,86	60 26 6,1	Ö.-A. 15177

	α 1862,0	δ 1862,0	Authority
<i>w</i>	15 ^h 21 ^m 24 ^s .19	+51° 4' 46".2	Ö.-A. 15370—1
<i>x</i>	15 36 32,37	33 48 43,8	B. Z. 371 and 475
<i>y</i>	15 41 27,32	27 39 12,3	B. Z. 366
<i>z</i>	15 46 18,06	22 7 26,6	B. Z. 292
<i>aa</i>	15 52 56,20	10 52 54,8	W. 15 ^b 997
<i>bb</i>	15 57 27,72	+ 1 3 27,0	W. 15 ^b 1080
<i>cc</i>	15 57 55,41	— 3 8 54,4	W. 15 ^b 1090
<i>dd</i>	16 5 14,68	13 40 42,0	9 ^m , det. by 1 filar-microm. comp. with
	15 59 22,89	13 41 54,4	W. 15 ^b 1118
<i>ee</i>	16 6 7,83	16 39 56,5	10.11 ^m , det. by 3 fil.-micr. obs. from the mean of the following two:
	16 11 14,79	16 41 2,7	Ö.-A. 15504 and
	16 14 58,55	16 41 22,9	Ö.-A. 15571—2
<i>ff</i>	16 4 20,47	19 13 3,9	Ö.-A. 15369—72
<i>gg</i>	16 9 37,51	21 33 19,3	Ö.-A. 15479
<i>hh</i>	16 14 32,99	—27 33 0,8	Ö.-A. 15563—4.

Correction for refraction has been applied where of influence. The comparisons have been made with the fil.-micr., illuminated wires in dark field, power 270; the differences in right-ascension chronographically, except for the regions of slow-moving stars, where a chronometer was used.

For ascertaining the accuracy with which the comet might be observed, the comparisons of each evening were reduced to one epoch by applying the comet's motion in the interval, and the mean deviation computed. Thus, by combining these for the several evenings according to their weights, the mean error of one comparison of comet with star is found as be as follows:

in AR for Decl ^s . beyond 78°	= ±0°528	} by ear and eye with half-se- conds chron. by chronogr.
" " between 50° and 78°	= ±0,316	
" " beyond 50° generally	= ±0,396	
" " less than 50°	= ±0,195	

in declination = ±0"985.

The probable (mean) error of the results, therefore, aside from casual errors, may be assumed as about one third of these figures, since usually 8 or 10, in the mean 9, comparisons are made.

Schreiben des Herrn Prof. *d'Arrest*, Directors der Sternwarte in Kopenhagen, an den Herausgeber.

Freia hat seit meinem letzten Briefe, des stets trüben Himmels wegen, hier noch nicht wieder beobachtet werden können. Eine Berliner Beobachtung von Novbr. 27, die einzige auswärtige bisher, die ich kenne, zeigt eine, freilich kleine

Abweichung von der im vorigen Monate übersandten Bahn, und hat mich, bei nunmehr 34tägiger Zwischenzeit, zu nachstehendem Elementensysteme geführt, wodurch der Planet nun doch in die gewohnten Grenzen zurückgebracht wird. Ob-