№ 42

БЛОК-КНИЖКА

ГУКВКАНЦПРОМ
Арт. 491-93 в/к.
Цена 15 р. —

	...-24	16-24	25-28	29-34	29-34	35-40	41-50	51-56	57-62
	...	2m	3m б	3m a	4m	5m	6m	7m	8m
	2	2	1-2	2-2	2-3	1	1	3	5
q_0	187.0	23.6	91.0	142.0	53.6	140.4	249.6	128.6	62.0
q'	236.0	236.0	201.0	230.0	230.0	249.6	279.6	267.0	222.0
q_2	51.0	215.0	109.0	90.0	175	112.0	30.0	135.0	160
t_0	93.5	118	45.5	71.0	26.8	70.2	124.8	64.3	31.0
t	118.0	118.0	100.5	115.0	115.0	124.8	139.8	133.5	111.0
$\frac{t}{2}$	59.0	59.0	50.2	57.5	57.5	62.4	69.9	66.8	55.5
x	+0.4818	-0.6599	-0.0656	+0.1885	-0.4988	+0.1089	+0.7668	-0.0349	-0.3422
y	-0.5666	-0.5666	-0.7130	-0.5959	-0.5959	-0.4904	-0.2166	+0.3599	+0.6318
x'	-0.6461	-0.4343	-0.6884	-0.6205	-0.5059	-0.5021	-0.3552	+0.3601	+0.6843
y'	+0.3682	-0.7529	-0.1969	+0.0745	-0.5320	+0.0159	+0.7133	+0.0325	-0.2189
	-0°.3	-0°5	-0°9	-0°9	-0°7	-0°3	-0°6	-0°9	-0°3
φ_0	-40°.2	-25°.7	-43°.5	-38°.4	-30°.4	-30°.1	-20°.8	+21°.1	+43°.2
λ_0	+28°.8	-56°.6	-15°.8	+5°.4	-38°.1	+1°.1	+49°.7	+2°.0	-17°.5
	+0°.4	-0°.4	-0°.2	+0°.1	-0°.3	0°0	+0°.3	0.0	+0°.3
φ	-41°.0	-26°.2	-44°.4	-39°.3	-31°.1	-31°.0	-21°.4	+20°.8	+42°.3
λ	+28°.2	-57°.0	-16°.0	+5°.5	-38°.4	11°.1	+50°.0	+2°.0	-17°.2
L	280.9	280.9	280.8	280.8	280.8	280.7	280.6	280.6	280.5
l	310.1	223.9	264.8	286.3	242.4	281°.8	330°.6	282.6	263.3
CM	12.1	13.6	15.5	13.9	17.2	14.2	10.5	14.2	15.6
	ф)₂	((₁₀	ф) 5		⊙)₈	7 ⊙)	(Δ)₁	⊙) 6	ф

№ 208 14. XII 45 г ф

Зарисовка 6 08 - 7 ..

I 6 08 8ʰ 20ᵐ

в 7ʰ 20ᵐ затянуло.

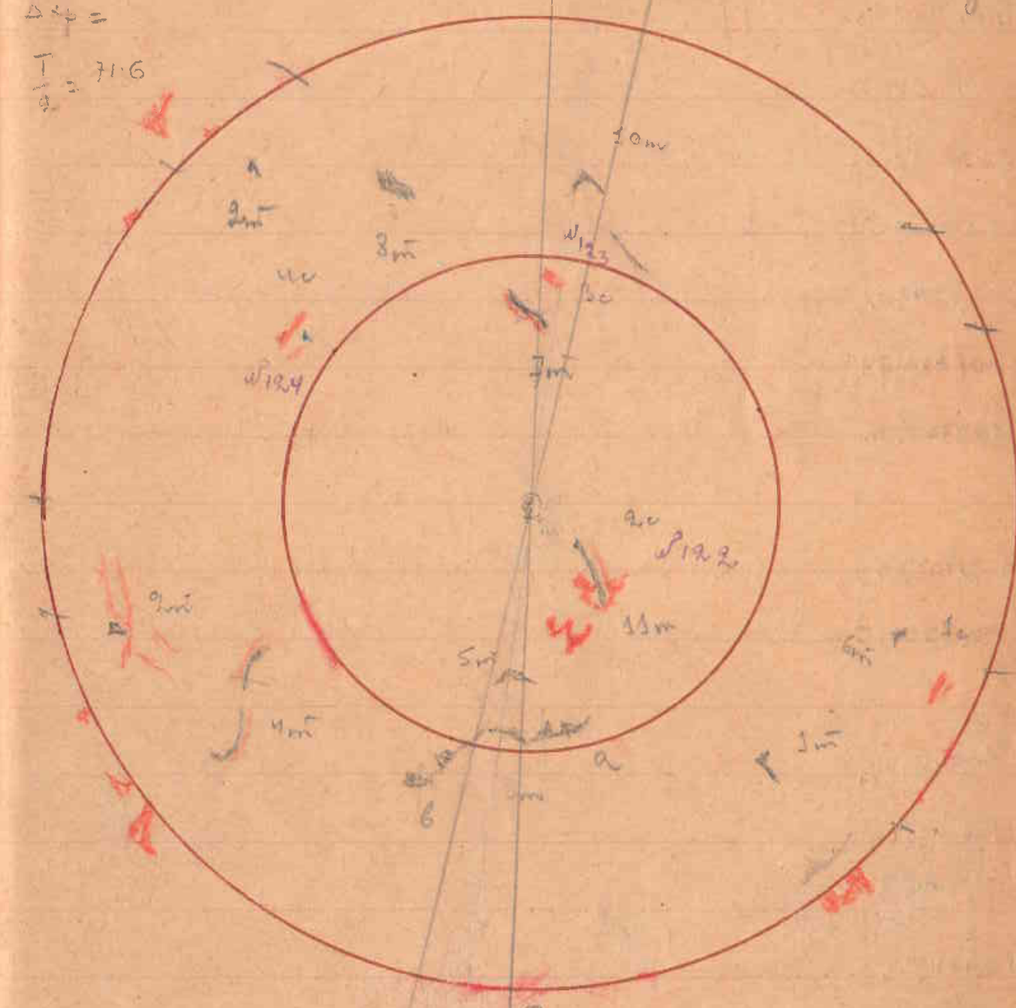
$\varphi = +10°.7$ $\sin\varphi = 0.1857$

xp 2414

$B = -0°.9$ $\cos\varphi = 0.9826$

$\Delta\varphi =$

$\frac{T}{2} = 71.6$



№ фл	1c	2c	3c	4c		
балл	1	2	2	1	Весь диск	y. 3.
φ	-30°	-18	+28	+16	Св. флок. 1.5	2.0
l	345	290	285	250		
CM	9.4	13.6	14.0	16.6	Т. флок. 2.5	2.5
№ гр	на месте 121	N 122	123	124		

04-12	13-19	
9m	10m	11r
1	1	1-9
18.0	102.6	
249.0	201.0	
232.0	96.0	
9.0	51.3	
116.0	100.5	
58.0	50.2	
-0.6844	+0.0154	
+0.5863	+0.7130	
+0.7032	+0.6977	
-0.5636	+0.1475	
-0°.5	-0°.9	
+44°.7	+44°.2	
-52°.4	+11°.9	
+0°.7	-0°.2	
+44°.2	+43°.3	-12
-51°.7	+11°.7	
280.4	280.4	
228.7	292.1	290
18.3	13.5	13.6
4	3	

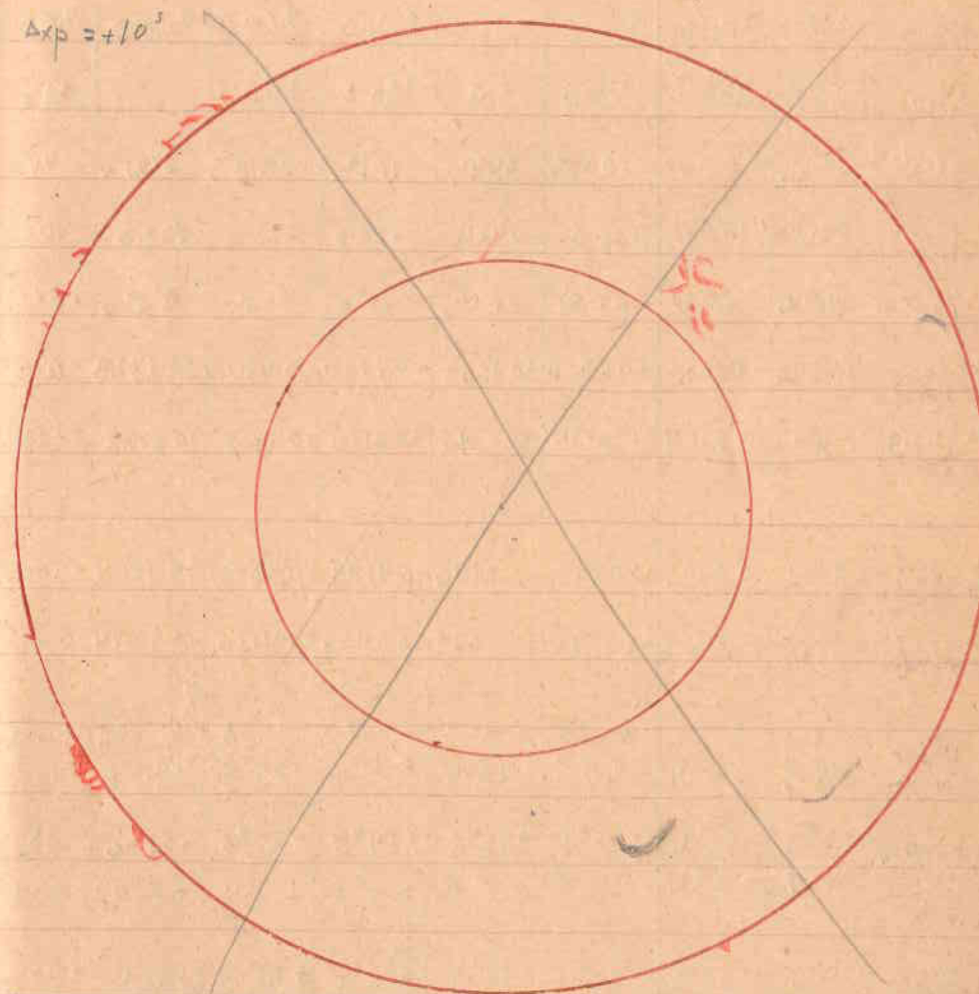
№	08 — 89 20m за 21 XII
инт	1 - 2
время	
q_0	151.0
q	193.0
q_2	42.0
t_0	75.5
t	96.5
$\frac{t}{2}$	48.2
x	+0.3808
y	+0.7404
x'	+0.6853
y'	+0.4730
φ_0	− 1°.3 +43°.3
λ_0	+40°.5 − 1°.2
φ	+42°.0
λ	+39°.3
L	188.2
l	227.5°
CM	18.4
	9 (

№ 2208 19 XII 45 г

Зарисовка 7^h30^m – 7^h5 (прервана облаками)

хр 2414

Δхр = +10³



№ фл					
инт					
φ					
l					
CM					
№ гр					

Зр	705–10	19–23	24–27	27–35	38–44	45–47	47–58	48–58	00–06
№	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m	9 m
шт	2–3	2	3	2–3	1–2	1–2	2	2	3
φ_0	153.0	23.0	11.0	219.0	280.0	23.0	65.6	6.4	88.0
φ	192.0	185.0	212.6	272.6	285.6	272.0	266.0	266.0	205.0
φ_x	39.0	159.0	200.0	51.0	6.0	250.0	200.0		118
t_0	76.5	11.5	5.5	109.5	140.0	11.5	32.8	3.2	44.0
t	96.0	92.5	106.3	136.3	142.8	136.0	133.0	133.0	102.5
$\frac{t}{2}$	48.0	46.2	53.2	68.2	71.4	68.0	66.5	66.5	51.2
x	+0.3975	−0.4840	−0.6653	+0.5760	+0.9568	−0.7880	−0.4700	−0.8828	−0.1004
y	−0.7429	−0.7647	−0.6704	−0.3085	−0.0916	+0.3170	+0.3738	+0.3738	+0.7001
x'	−0.7879	−0.6961	−0.5791	−0.3801	−0.2140	+0.4159	+0.4312	+0.4844	+0.7072
y'	+0.2985	−0.5785	−0.7461	+0.5315	+0.9371	−0.7407	−0.4180	−0.8274	−0.0094
	−1°.6	+1°.1	−0°.7	−1°.5	−0°.5	−1°.0	−1°.6	−0°.6	−1°.8
ψ_0	−52°.0	−44°.1	−35°.4	−22°.3	−12°.4	+24°.6	+25°.5	+29°.0	+45°.0
λ_0	+29°.0	−53°.7	−66°.2	+35°.1	+73°.6	−54°.5	−27°.6	−71°.0	−0°.8
	+1°.1	−1°.0	−1°.2	+0°.5	+0°.4	+0°.7	+0°.4	+1°.0	0°.0
φ	−53°.6	−45°.2	−36°.1	−23°.8	−12°.9	+23°.6	+23°.9	+28°.4	+43°.2
λ	+30°.1	−54°.7	−67°.4	+35°.6	+74°.0	−53°.8	−27°.2	−71°.0	−0°.3
L	188.8	188.6	188.6	188.6	188.4	188.4	188.3	188.3	188.2
l	218°.9	133°.9	121°.2	224°.2	262°.4	134°.6	161°.1	117°.3	187°.4
СМ	19.0	25.5	26.4	18.6	15.7	25.4	23.4	26.7	21.4
	4	8	9	3	1	7	6	10	5

№ 209 21 XII 45 г 9' № зарисовка 625 – 653

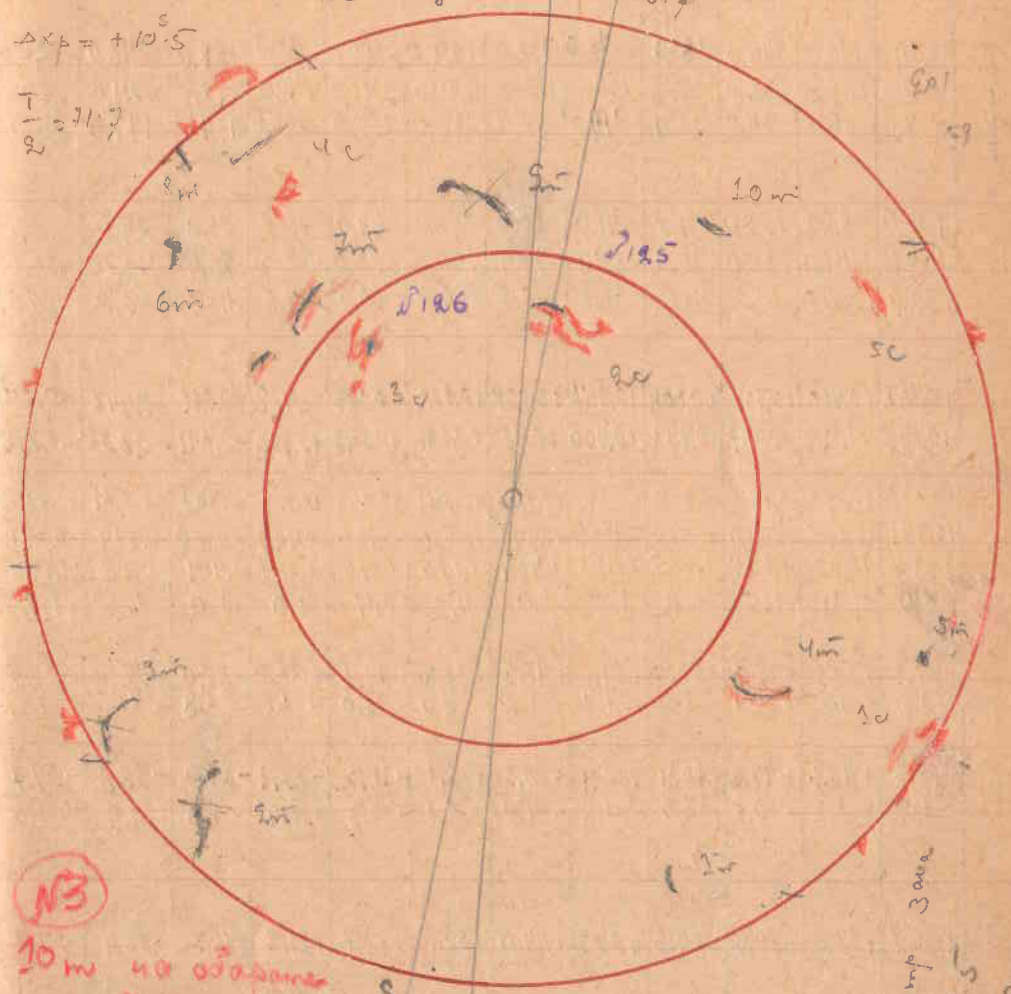
$\varphi = +7°.4$ $\sin\varphi = 0.1288$

$B = -1°.8$ $\cos\varphi = 0.9917$

705 – 815

$\Delta x_p = +10^s.5$

$\frac{T}{2} = 71.7$



№3

10 m на обозначение

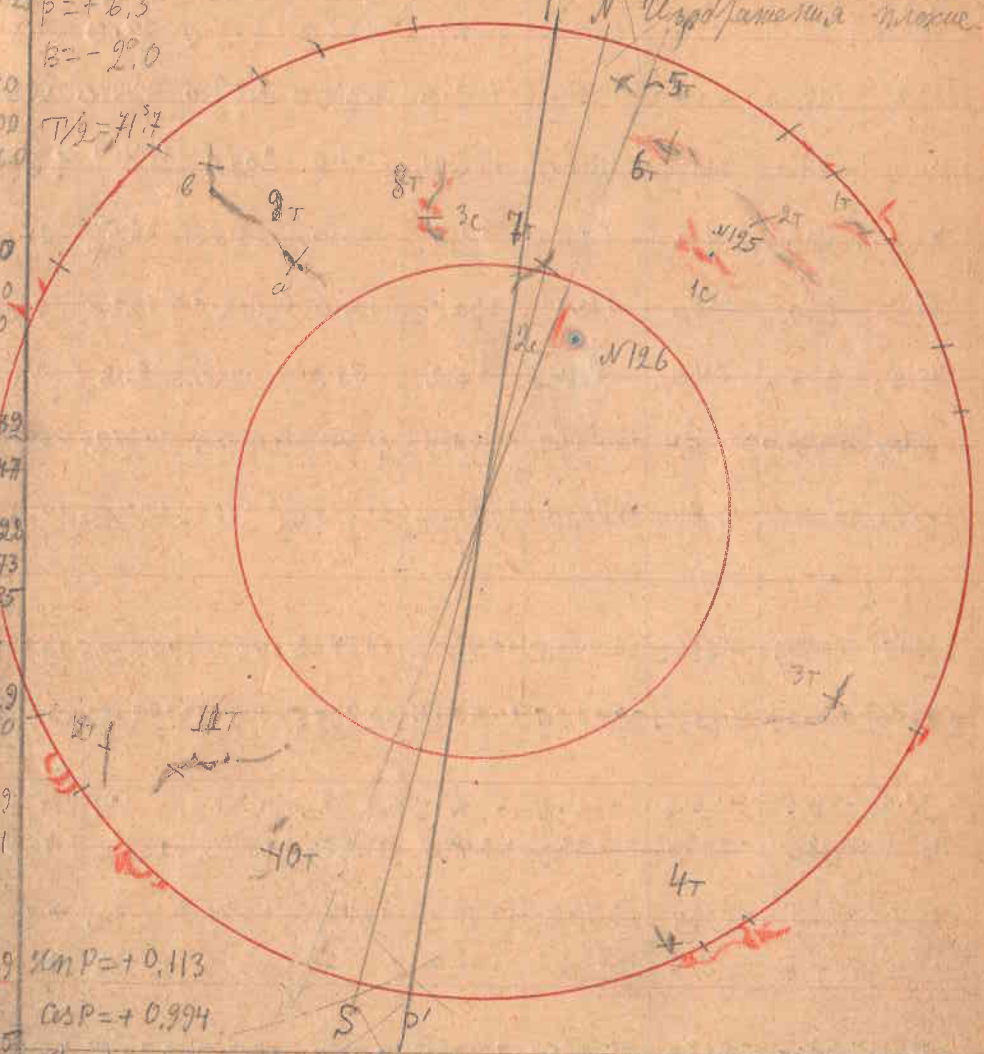
№ пр	1 с	2 с	3 с	4 с	5 с
шт	1	3	2	2	1
φ	−30	+30	+19	+28	+25
l	255	200	170	140	240
см	16.3	20.4	22.6	25.0	17.4
Зар		№125	№126		на месте №124

№	1т	2т	3т	4т	5т	6т	7т	8т	9т а	10т	11т	12т	9т б
инт	<1	<1	1	2	1	<1	2	1	3	1-2	3	2	2
время	835-38	8 35-38	8 15-19	8 01-05	8 43-46	8 39-42	8 24-29	8 24-29	8 30-34	8 01-05	8 10-13	8 10-13	8 24-29
τ_0	204.0	170.0	244.0	183.0	82.0	132.0	124.0	88.0	65.0	58.0	48.0	24.0	140
τ	208.0	208.0	278.0	192.8	124.8	190.0	240.0	240.0	270.0	192.8	224.0	224.0	240.0
$\tau_к$	4.0	36.0	34.0	10.0	44.0	58.0	116.0	152.0	206.0	134.0	177.0	200.0	226.0
t_0	102.0	85.0	122.0	91.5	41.0	66.0	62.0	44.0	32.5	29.0	24.0	12.0	4.0
t	104.0	104.0	139.0	96.4	62.4	95.0	120.0	120.0	135.0	96.4	112.0	112.0	120.0
$t/2$	52.0	52.0	69.5	48.2	31.2	47.5	60.0	60.0	67.5	48.2	56.0	56.0	60.0
x	+0.697	+0.460	+0.732	+0.604	+0.137	+0.258	+0.028	−0.293	−0.488	−0.268	−0.446	−0.614	−0.782
y	+0.689	+0.689	−0.247	−0.741	+0.900	+0.750	+0.547	+0.547	+0.338	−0.741	−0.625	−0.625	+0.547
x'	+0.606	+0.633	−0.329	−0.305	+0.880	+0.717	+0.541	+0.569	+0.391	−0.707	−0.571	−0.552	+0.422
y'	+0.771	+0.535	+0.700	+0.516	+0.238	+0.341	+0.090	−0.160	−0.447	−0.350	−0.514	−0.681	−0.673
$\sec\varphi_0$	1.257	1.292	1.059	1.685	2.106	1.434	1.190	1.216	1.087	1.414	1.218	1.199	1.285
A	2.0	1.4	1.5	1.7	1.0	1.0	0.2	0.4	1.0	1.0	1.3	1.6	1.7
φ_0	+37.3	+39.3	−19.2	−53.6	+61.6	+45.8	+32.8	+34.7	+23.0	−45.0	−34.8	−33.5	+38.9
$\Delta\varphi$	−0.5	−1.5	−1.4	−1.0	−1.7	−1.8	−2.0	−2.0	−1.8	−1.8	−1.6	−1.2	−1.0
λ_0	+75.7	+43.7	+47.8	+60.4	+30.1	+29.3	+6.1	−11.2	−29.1	−29.7	−38.8	−54.7	−59.9
$\Delta\lambda$	−1.5	−1.2	+0.5	+2.3	−1.8	−1.0	−0.1	+0.3	+0.4	−1.0	−0.9	−1.0	+1.4
φ	+36.8	+37.8	−20.6	−54.6	+59.9	+44.0	+30.8	+32.7	+21.2	−46.8	−36.4	−34.7	+37.9
λ	+74.2	+42.5	+48.3	+62.7	+28.3	+28.3	+6.0	−10.8	−28.7	−30.7	−39.7	−55.7	−58.5
L	161.6	161.6	161.8	161.9	161.5	161.6	161.7	161.7	161.6	161.9	161.8	161.8	161.7
l	235.8	204.1	210.1	224.6	189.8	189.9	167.7	150.9	132.9	131.2	122.1	106.1	103.2
см	17.7	20.1	19.7	18.6	21.2	21.2	22.9	24.2	25.5	25.7	26.4	27.6	27.8
б/№	1	4	5	2	6	5	7	8	9	10	11	12	13

№200. 23/XII-45 г. x_f. 2414; Δ = +1/2 Зарис. 6ч55м – 7ч54м
Общее время 6 55 – 8 46

p = +6°,5
B = −2°,0
T/2 = 71°,7

Изображения плохие.



sin P = +0,113
cos P = +0,994

№	1с	2с	3с
инт	2	3	2
φ	+30	+21	+33
l	198	169	151
см	20.6	22.8	24.2
б/№	125	126	—

	Вес дня	с. з.
Светлые фл.	1,5	1,5
Темные фл.	2.0	0.5

Вр	622–23	28–34	34–39	39–43	44–49	54–01	02–05	06–12	13–20
№	1ma	1mb	2m	3m	4m	5m	6m	7m	8m
шт	2·3	1–2	2	3–4	1–2	1–2	1–2	3–4	2
q_0	95·0	32·0	8·0	107·0	121·6	166·0	127·0	73·0	28·0
q	191·0	142·0	216·0	237·4	261·0	234·0	237·0	247·0	185·0
q_k	94·0	110·0	210·0	130·0	142·0	67·0	109·0	174·0	160·0
t_0	47·5	16·0	4·0	53·5	60·8	83·0	63·5	36·5	14·0
t	95·5	71·0	108·0	118·7	130·5	117·0	118·5	123·5	92·5
$\frac{t}{2}$	47·8	35·5	54·0	59·4	65·2	58·5	59·2	61·8	46·2
x	−0·0042	−0·2720	−0·6974	−0·0823	−0·0614	+0·3417	+0·0560	−0·3529	−0·4491
y	−0·7453	−0·8688	−0·6579	−0·5600	+0·4162	+0·5782	+0·5641	+0·5070	+0·7647
x'	−0·7415	−0·8387	−0·5881	−0·5495	+0·4202	+0·5428	+0·5561	+0·5385	+0·8042
y'	−0·0756	−0·3539	−0·7572	−0·1355	−0·0212	+0·3955	+0·1097	−0·3027	+0·3737
	−2°·3	−1°·7	−0°·8	−2°·3	−2°·3	−2°·0	−2°·3	−2°·1	−2°·0
φ_0	−47°·9	−57°·0	−36°·0	−33°·3	+24°·8	+32°·9	+33°·8	+32°·6	+53°·5
λ_0	−6°·5	−40°·5	−69°·4	−9°·3	−1°·3	+27°·9	+7°·6	−21°·0	−39°·0
	−0°·3	−2°·3	−1°·6	−0°·3	0°·0	−0°·7	−0°·2	+0°·5	+2°·0
φ	−50°·2	−58°·7	−36°·8	−35°·6	+22°·5	+30°·9	+31°·5	+30°·5	+51°·5
λ	−6°·8	−42°·8	−71°·0	−9°·6	−1°·3	+27°·2	+7°·4	−20°·5	−37°·0
$\varkappa$	136·4	136·4	136·4	136·3	136·2	136·2	136·1	136·1	136·0
l	129·6	93·6	65·4	126·7	134·9	163·4	143·5	115·6	99·0
см	25·8	28·5	30·7	26·0	25·4	23·2	24·7	26·8	28·1
	6 ☿	10 ♀	11 ♂	7 ☿	5	2	4 ♀	8 ♀	9 ♀

№21ф 25·XII 45г

$\varphi = +5°5$

$B = -2°3$

$\sin\varphi = 0·0958$

$\cos\varphi = 0·9954$

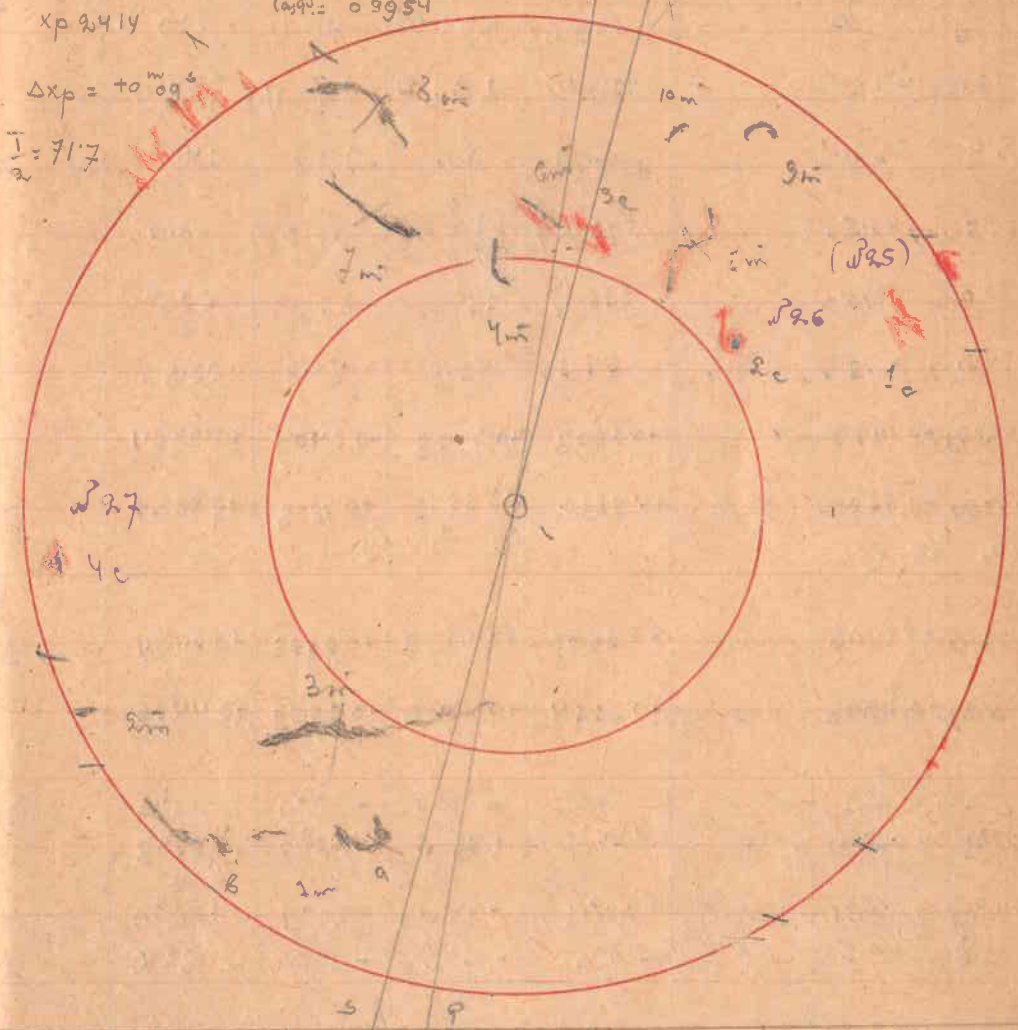
Зарисовка 5^h45^m – 61г

621 – 73г

x_p 2414

$\Delta x_p = +0^m09^s$

$\frac{T}{2} = 71·7$



№ фл	1c	2c	3c	4c
шт	1	1–2	2	2
φ	+30	+22	+30	−16
l	198	170	151	66
см	20·6	22·6	24·2	30·6
№ гр	(№25)	№26		№27

Весь диск 9.3

Св. флок. 1·5 0·0

Т. флок. 2·5 0·5

20 – 24	25 – 30	31 – 35	36 – 41	42 – 49	50 – 59
9 m	10 m	9 m	10 m	11 m	12 m
2	1 – 2	1	1	1 – 2	1
109.0	95.0	153.6	134.0	40.0	120.0
136.0	147.0	232.4	239.4	179.4	135.0
25.0	51.0	88.0	90	138	14.0
54.5 ✓	47.5 ✓	76.8 ✓	117.0 ✓	20.0 ✓	60.0 ✓
68.0	73.5	116.2	119.7	89.7	67.5
34.0 ✓	36.8 ✓	58.1 ✓	59.8 ✓	44.8 ✓	33.8 ✓
+0.2859 ✓	+0.1493	+0.2608	+0.7978	-0.3459	+0.3654
+0.8804 ✓	+0.8582	+0.5860	+0.5517	+0.7808	+0.8820
32	25 xII		36 26 xII		
+0.8490 ✓	+0.8400	+0.5607	+0.4793	+0.8082	+0.8464
+0.3689 ✓	+0.2308	+0.3114	+0.8432	-0.2759	+0.4416
- 1°.7	- 2°.1	- 2°.2	- 0°.7	- 2°.1	- 1°.3
+58°.1 ✓	+57°.1	+34°.1 ✓	+28°.6 ✓	+53°.9 ✓	+57°.8 ✓
+44°.3 ✓	+25°.21	+22°.1 ✓	+73°.9 ✓	-27°.9 ✓	+56°.0 ✓
- 2°.6 ✓	- 1°.5 ✓	- 0°.6	- 1°.3	+ 1°.6	- 3°.2
+56°.4	+55°.0	+31°.9	+27°.9	+51°.8	+56°.5
+41°.7	+23°.7	+21°.5	+72°.6	-26°.3	+52°.8
135.9	135.9	129.7	122.6	122.5	122.5
177.6	159.6	144.2	195.2	96.2	175.3
22.1	23.5	24.7	20.8	28.3	22.3
1 ☿	3 ♀	4 ♀	1 ☿	9 ♀	2 ♀

Вр.	695–36	36–39	52–56	59–01	02–05	05–09	10–16	10–17
№	1m	2m	3m	4m	5m	6m	7m	8m
инт.	1	1	1–2	3	2	2	2–3	3–4
q_0	97.6	21.6	28.6	139.6	15.0	85.4	197.0	101.0
q	171.0	137.0	216.0	240.0	250.6	280.4	239.0	239.0
q_2	76.0	117.0	197.6	99.0	236.0	194.0	45.0	141.0
t_0	48.8 ✓	10.8 ✓	9.3 ✓	69.8 ✓	7.5 ✓	42.7 ✓	98.5 ✓	50.5 ✓
t	85.5	68.5	108.0	120.0	125.3	140.2	119.5	119.5
$\frac{t}{2}$	42.8 ✓	34.2 ✓	54.0 ✓	60.0 ✓	62.6 ✓	70.1 ✓	59.8 ✓	59.8 ✓
x	+0.0837	−0.3264	−0.6234	+0.1367	−0.7685	−0.3821	+0.5397	−0.1297
y	−0.8023	−0.8790	−0.6579	−0.5476	−0.4876	−0.2100	+0.5517	+0.5517
x'	−0.8066	−0.8469	−0.6004	−0.5575	−0.4181	−0.1756	+0.5020	+0.5609
y'	+0.0128	−0.4025	−0.6789	+0.0880	−0.8084	−0.3991	+0.5861	−0.0807
	−2°.4	−1°.5	−1°.3	−2°.4	−1°.1	−2°.2	−1°.8	−2°.4
φ_0	−53°.8 ✓	−57°.9 ✓	−36°.9 ✓	−33°.9 ✓	−24°.7 ✓	−10°.1 ✓	+30°.1 ✓	+34°.1 ✓
λ_0	+1°.2 ✓	−49°.2 ✓	−58°.1 ✓	+6°.1 ✓	−62°.9 ✓	−23°.9 ✓	+42°.7 ✓	−5°.6 ✓
	0°.0	−2°.9 ✓	−1°.5	+0°.1	−1°.0	−0°.2	−1°.0	+0°.1
φ	−56°.2	−59°.4	−38°.2	−36°.3	−25°.8	−12°.3	+28°.3	+31°.7
λ	+1°.2	−52°.1	−59°.6	+6°.2	−63°.9	−24°.1	+41°.7	−5°.5
l_0	123°.2	123°.2	123.0	123°.0	122.9	122.9	122.8	122.8
l	124°.4	71°.1	63°.4	129°.2	59°.0	98°.8	164°.5	117.3
CM	26.2	30.2	30.8	25.8	31.1	28.1	23.1	26.7
	6	11	10	5	12	8	3	7

№ 2112

26.XII 45₂

$\varphi = +5^\circ.05$

$B = -2^\circ.4$

Sin P = 0.0880

Cos P = 0.9961

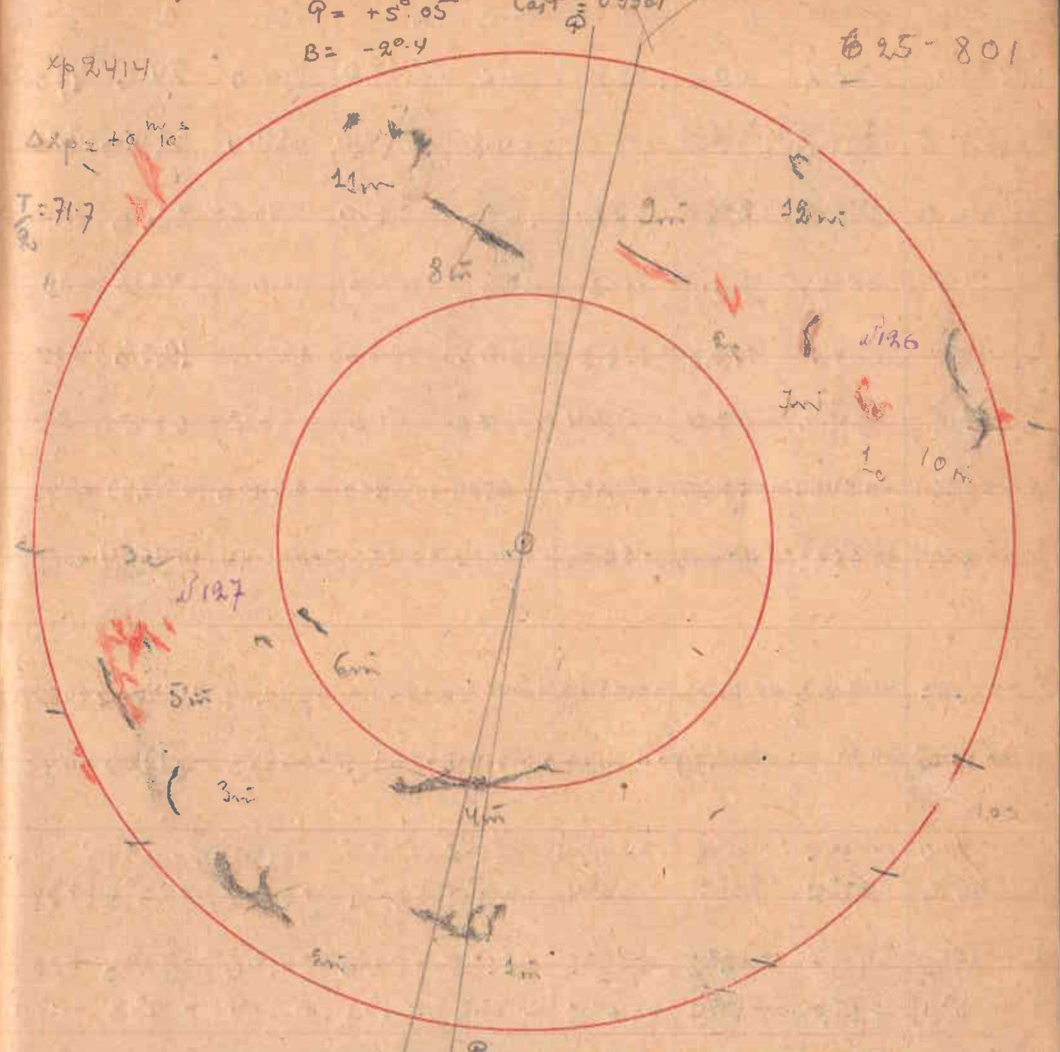
Зарисовка 542–612

625–801

Хр 2414

$\Delta Xp = +0^{m}10^{s}$

$\frac{T}{2} = 71.7$



№ фл.	1c	2c	3c			
инт.	1	<1	2	Вес	зап.	центр зап.
φ	+22 ✓	+29 ✓	−20 ✓	Свет. фл.	1.5	0.0
l	167 ✓	152 ✓	62 ✓	Зап. фл.	2.5	0.5
CM	22.9	24.1	30.9			
№ гр.	№126		№127			

Вр.	45–48	49–00	00–05	00–06	07–18	18–24	24–33	24–35	35–45
№	1м	2м	3м	4м	5м	6м	7м	8м	9м
мин	1–2	1–2	2	4	2–3	2	1–2	1	3–4
φ_0	35.0	30.0	6.0	156.6	29.6	216.0	14.0	94.6	179.6
φ	146.6	217.0	237.6	237.6	254.6	244.0	254.0	254.0	230.0
φ_u	112.0	185.0	232.0	76.0	225.0	26.0	240.0	160.0	51.0
t_0	17.5	15.0	3.0	78.3	14.8	108.0	7.0	47.3	89.8
t	73.3	108.5	118.8	118.8	127.2	122.0	127.0	127.0	115.0
$\frac{t}{2}$	36.6	54.2	59.4	59.4	63.6	61.0	63.5	63.5	57.5
x	−0.2664	−0.5467	−0.7866	+0.2636	−0.6806	+0.6555	−0.7880	−0.2259	+0.4505
y	−0.8599	−0.6547	−0.5600	−0.5600	−0.4617	+0.5255	+0.4644	+0.4644	+0.5974
x'	−0.8357	−0.6088	−0.4951	−0.5793	−0.4056	+0.4712	+0.5261	+0.4810	+0.5594
y'	−0.3345	−0.5975	−0.8290	+0.2179	−0.7154	+0.6955	−0.7483	−0.1880	+0.4970
	−2°.0	−1°.7	−0°.8	−2°.4	−1°.5	−1°.5	−1°.2	−2°.4	−2°.0
φ_0	−56°.7	−37°.5	−29°.7	−35°.4	−23°.9	+28°.1	+31°.7	+28°.8	+34°.0
λ_0	−37°.5	−48°.9	−72°.6	+15°.5	−51°.5	+52.0	−61°.6	−12°.4	+36°.8
	−2°.3	−1°.5	−1°.4	+0°.5	−0°.8	−1°.1	+1°.4	+0°.3	−1°.0
φ	−58°.7	−39°.2	−30°.5	−37°.8	−25°.4	+26°.6	+30°.5	+26°.4	+32°.0
λ	−39°.8	−50°.4	−74°.0	+16°.0	−52°.3	+50°.9	−60°.2	−12°.1	+35°.8
z	109.9	109.8	109.8	109.8	109.7	109.6	109.5	109.5	109.4
l	70°.1	59°.4	35°.8	125°.8	57°.4	160°.5	49°.3	97°.4	145°.2
см	30.3	31.1	1.9	26.1	31.3	23.4	31.9	28.2	24.6
	9	10	13	4	11	1	12	7	2

№213 27.VII 45г

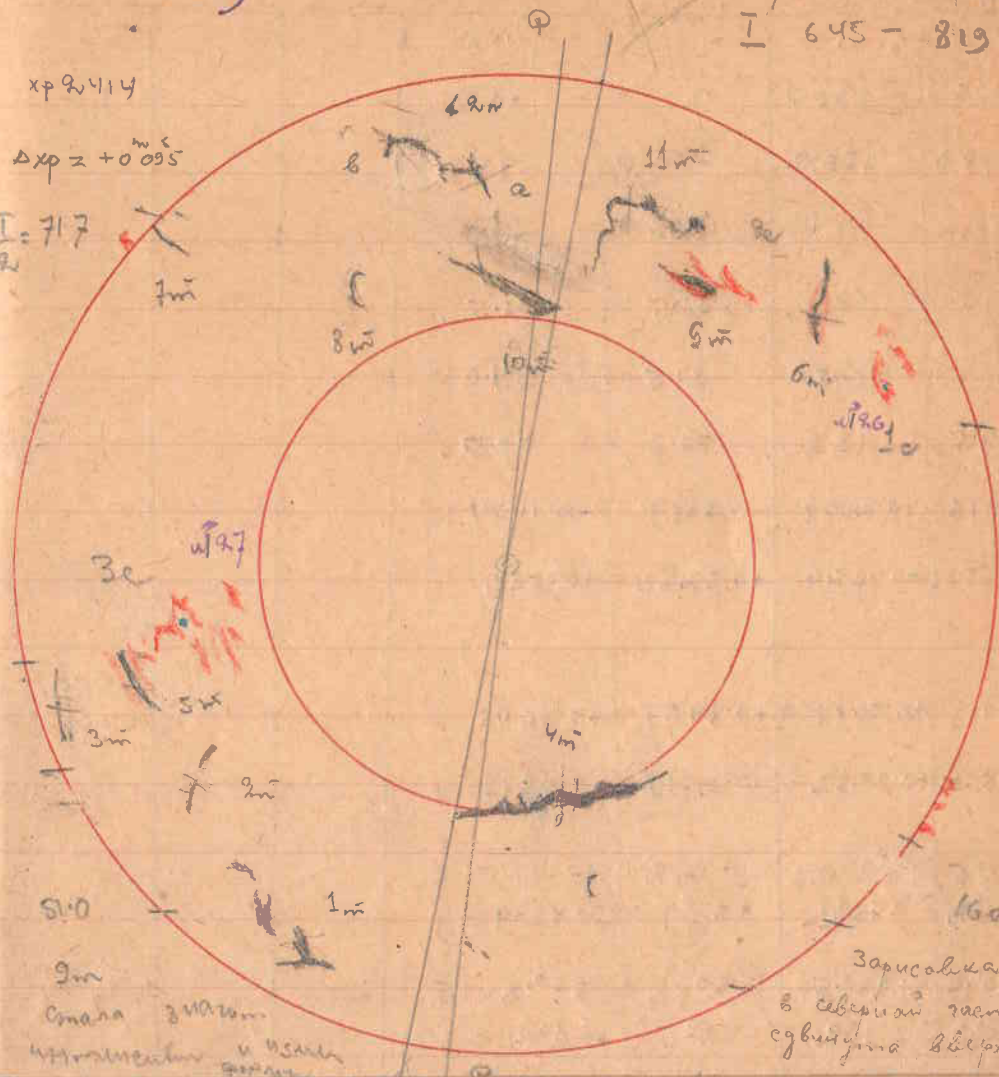
Зарисовка 540–620

I 645 – 819

хр 2414

Δхр = +0ᵐ095

$\frac{I}{2}$ = 717

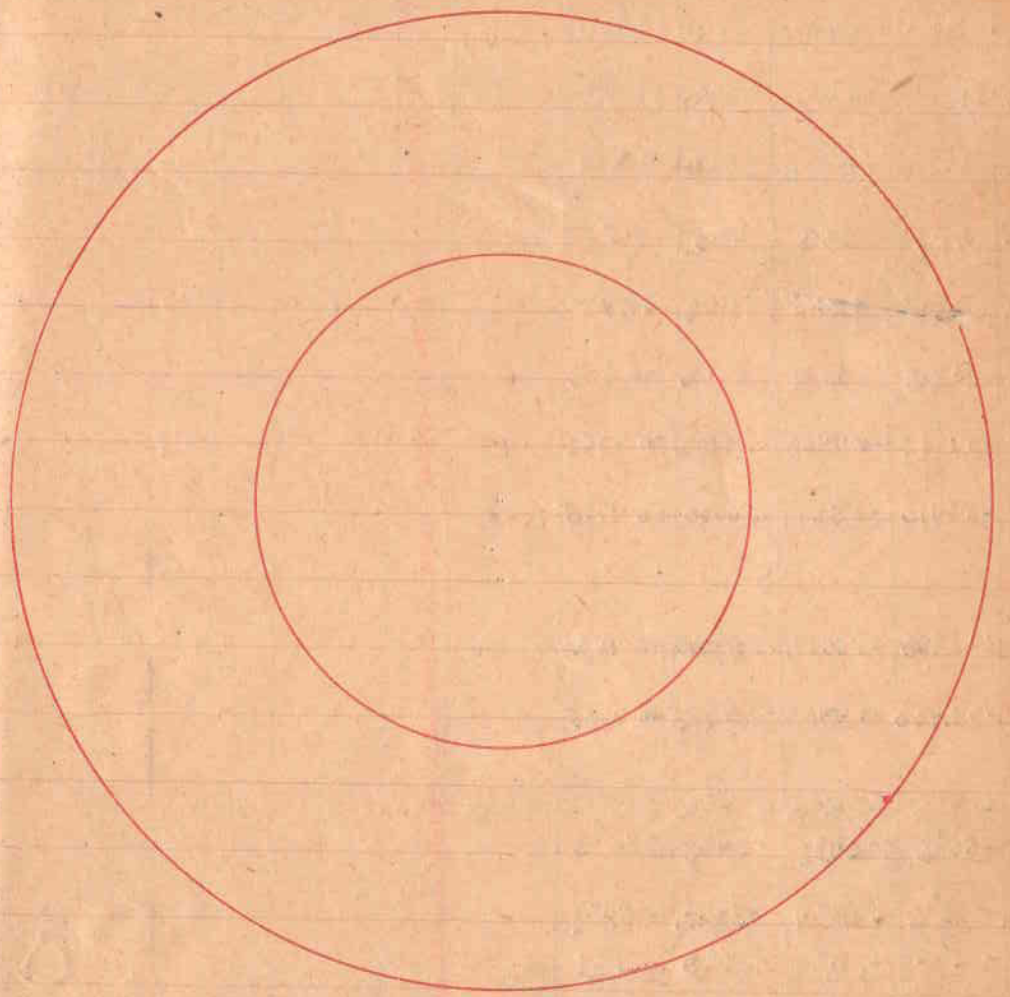


Стала значит. интенсивн. и измен. формы

Зарисовка в северной части сдвинута вверх

№ фл.	1с	2с	3с	φ = +4°.6	Весь диск	4.3
ист.	1	1	2	B = −2°.5	Св. фл. 1.5	0.0
φ	+24	+32	−18	sin φ = 0.0802	Т. фл. 3.0	0.0
l	172	148	67	cos φ = 0.9958		
см	22.6	24.4	30.5			
№ ф.	№26	—	127			

48-54	56-61	02-10	10-18
10m 3-4	11m 1-2	12m6 1	19m9 1
125·0	136·0	33·0	73·0
238·0	195·0	163·0	188·0
106·0	60·0	129·0	114·0
67·5 ✓	68·0 ✓	16·5 ✓	36·5 ✓
119·0	97·5	81·5	94·0
59·5 ✓	48·8 ✓	40·8 ✓	47·0 ✓
+0·1116	+0·2678	-0·3389	-0·1464
+0·5581	+0·7326	+0·8223	+0·7552
+0·5473	+0·7088	+0·8469	+0·7645
+0·1560	+0·3257	-0·2719	-0·0877
-2°·5	-2°·2	-2°·2	-2°·5
+33°·2	+45°·1	+57°·9	+49°·9
+10°·7	+27°·5	-30°·8	-7°·8
-0°·3	-1°·2	+2°·0	+0°·4
+30°·7	+42°·9	+55°·7	+47°·4
+10°·4	+26°·3	-28°·8	-7°·4
109·3	109·2	109·2	109·1
119°·7	135°·5	80°·4	101°·7
26·5	25·3	29·5	27·9
5	10 3	8	9



Вр	10 – 15	15 – 20	24 – 26	27 – 30	
№	1m	2m	3m	4m	5m
шир	2 – 3	3 – 4	3	3	3
q_0	51.4	185.6	58.0	19.0	
q	155.0	243.0	228.6	249.0	
q_2	103.0	57.0	167.0	228.6	
t_0	25.7 ✓	92.8 ✓	29.0 ✓	9.5 ✓	
t	77.5	121.5	114.3	124.5	
$\frac{t}{2}$	38.8 ✓	60.8 ✓	57.2 ✓	62.2 ✓	
x	−0.1827	+0.4463	−0.3933	−0.7351	
y	−0.8410	−0.5299	−0.6030	−0.4975	
x'	−0.8253	−0.5612	−0.5726	−0.4424	
y'	−0.2438	+0.4063	−0.4363	−0.7695	
	− 2°3	− 2°2	− 2°2	− 1°3	
φ_0	−55°6	−34°1	−34°9	−26°3	
λ_0	−25°6	+29°4	−32°2	−59°1	
	− 1°7	+ 0°9	− 1°0	− 1°1	
φ	−57°9	−36°3	−37°1	−27°6	
λ	−27°3	+30°3	−33°2	−60°2	
ψ_0	97.1	97.0	97.0	96.9	
ρ	69°8	127°3	63°8	36°7 ✓	
см	30.3	26.0	30.8	1.8	

♀

Предположительно

№ 21 ♃ 28. XII 45 г. Ф N Зарисовка 5⁴⁰ – 6⁰⁹

Наблюдения производились через все уплотняющуюся пелену I 5⁴⁰ – 6³⁰

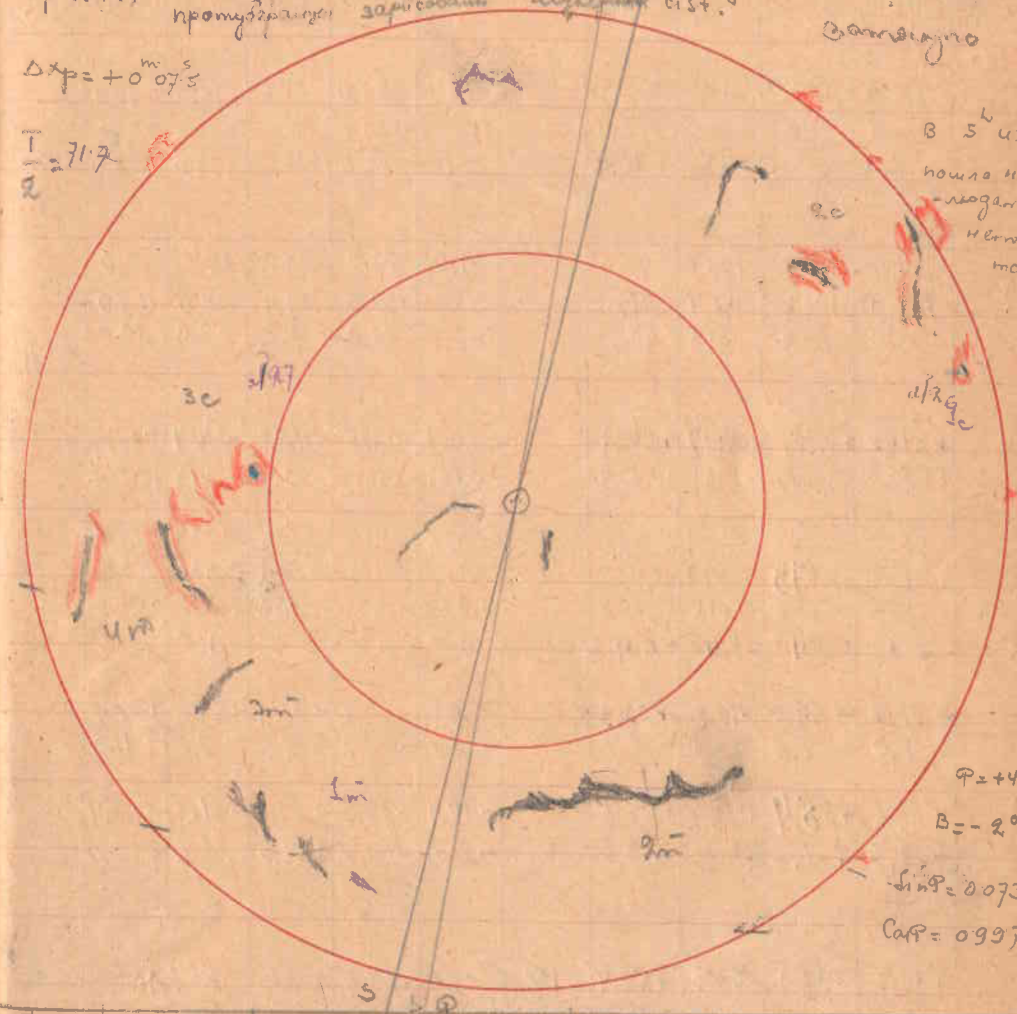
хр 2414 протуберанцы зарисовали неуверенно cist.

$\Delta хр = +0^m 07^s.5$

$\frac{I}{2} = 71.7$

Затянуто

В 5^h ч.т. пошла наблюдать, нет тока



Ф = +4°.1

B = −2°.6

sin Ф = 0.0732

cos Ф = 0.9973

№ гр	1с	2с	3с	Весь	диск	центр. зона
шир	1	1 – 2	2.	Св. флок	1.5	0.0
φ	+22 ✓	+32 ✓	−20 ✓	Тн. флок.	2.5	2.0
ℓ	170 ✓	145 ✓	62 ✓			
см	22.7	24.6	30.9			
№ гр	№ 26		№ 27			

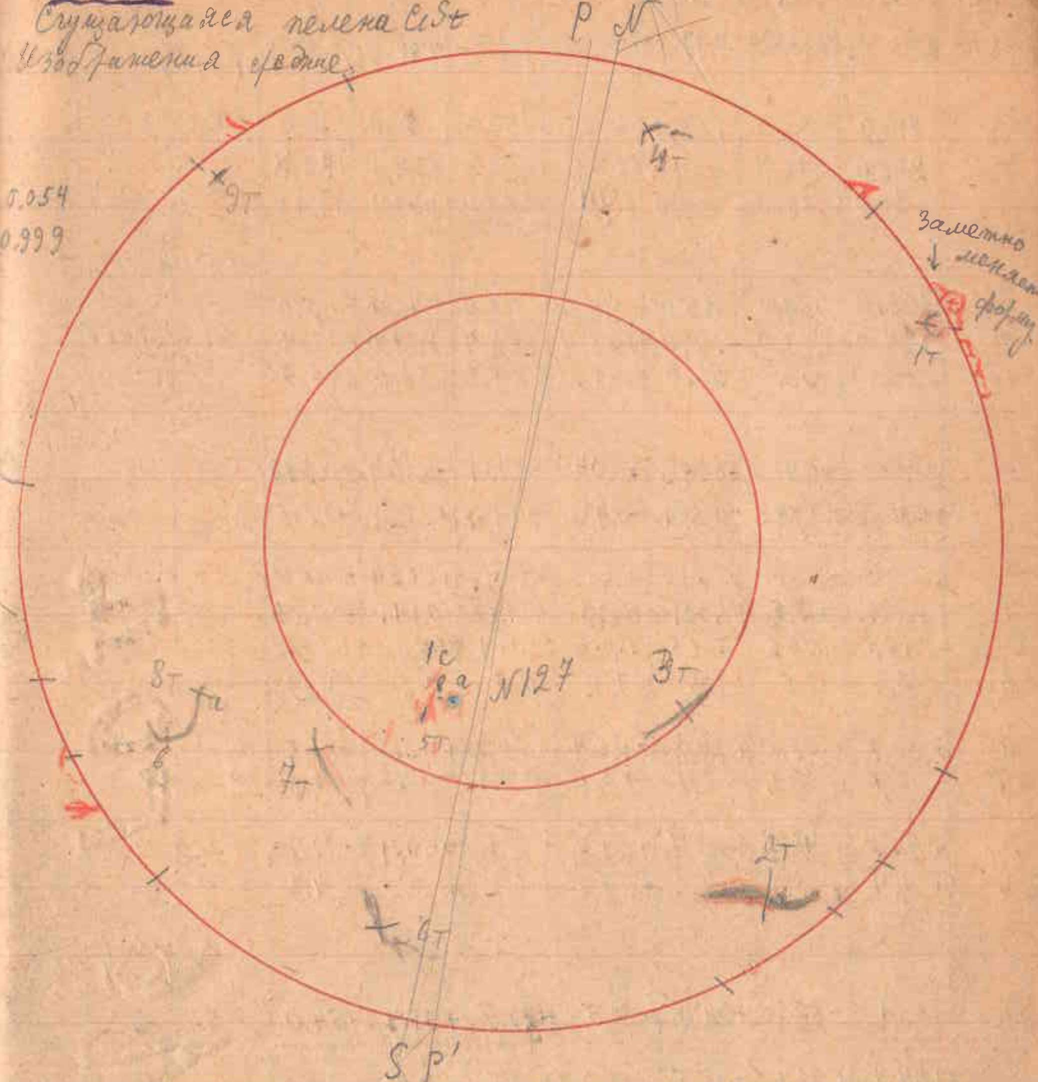
N	1т	2т	3т	4т	5т	6т	7т	8тв	8а	9т	
инт.	1-2	3	1	1-2	2	1	2	2	2	<1	P=+3.°1?
время	6 45-48	6 28-32	6 40-44	6 49-52		6 23-26	6 34-38	6 28-31	6 34-38	6 45-48	B=-2.°9?
τ_0	228.0	223.0	210.0	84.0		82.0	105.0	51.0	65.0	10.0	
τ	236.0	242.8	282.8	162.0		186.0	260.0	242.8	260.0	236.0	
τ_k	8.0	20.0	73.0	78.0		104.0	156.0	192.0	194.0	228.0	sin P=+0.054
											cos P=+0.999
t_0	114.0	111.5	105.0	42.0		41.0	52.5	25.5	32.5	5.0	
t	118.0	121.4	141.4	81.0		93.0	130.0	121.4	130.0	118.0	
$t/2$	59.0	60.7	70.7	40.5		46.5	65.0	60.7	65.0	59.0	$T/2$=71.°6
x	+0.768	+0.709	+0.479	+0.021		-0.077	-0.175	-0.492	-0.454	-0.754	
y	+0.567	-0.530	-0.161	+0.824		-0.761	-0.419	-0.530	-0.419	+0.567	
x'	+0.525	-0.567	-0.187	+0.822		-0.756	-0.410	-0.502	-0.394	+0.607	
y'	+0.798	+0.679 (over 0.672?)	+0.470	+0.065		-0.118	-0.198	-0.521	-0.477	-0.722	
sec φ_0	1.175	1.213	1.018	1.757		1.527	1.096	1.156	1.088	1.259	
A	2.7	2.4	1.4	0.4		0.5	0.6	1.7	1.5	2.6	
φ_0	+31.7	-34.5	-10.8	+55.3		-49.1	-24.2	-30.1	-23.2	+37.4	
$\Delta\varphi$	-1.0	-1.6	-2.5	-2.9		-2.9	-2.8	-2.3	-2.5	-1.2	
λ_0	+69.6	+55.4 (over 55.9?)	+28.6	+6.6		-10.4	-12.5	-37.0	-31.3	-65.4	
$\Delta\lambda$	-1.6	+1.6	+0.3	-0.6		-0.6	-0.3	-1.0	-0.6	+2.0	
φ	+30.7	-36.1	-13.3	+52.4	-18	-52.0	-27.0	-32.4	-25.7	+36.2	
λ	+68.0	+57.0	+28.9	+6.0		-11.0	-12.8	-38.0	-31.9	-63.4	
L	70.4	70.6	70.4	70.4		70.6	70.5	70.6	70.5	70.4	
l	138.4	127.6	99.3	76.4	65	59.6	57.7	32.6	38.6	7.0	
С.М.	25.1	25.9	28.1	29.8	30.7	31.1	31.2	1946, I 2.2	1.7	4.8	
в./N	♀)	☿)	♂)	♀)	(♂)	☿	♁)	♂		(♂	

№215 30/XII-45 г. α=12h14; δ=-7.°5 зари совпа 5h30m - 6h15m

Общее время 5 30 - 6 52

Сгущающаяся пелена CiSt

Изображения средние



N	1с						Весь диск	9.3
инт.	2							
φ	-17 ✓						Светлые фл. 0,5	1.0
l	66 ✓						Темные фл. 2.5	1.0
С.М.	30.6							
в./N	127							

№	1т а	1т в	2т	3т а	3т в	4т	5т
инт	2	2	1-2	2-3	2-3	2	2
время	734-37	726-28	747-51	738-45	738-45	747-51	729-32
τ_0	210.0	136.0	166.0	177.0	150.0	90.0	10.0
τ	248.0	154.0	224.0	256.8	256.8	224.0	182.8
$\tau_к$	38.0	18.0	58.0	80.0	108.0	134.0	174.0
t_0	105.0	68.0	83.0	88.5	75.0	45.0	5.0
t	124.0	77.0	112.0	128.4	128.4	112.0	91.4
$t/2$	62.0	38.5	56.0	64.2	64.2	56.0	45.7
α	+0.602	+0.413	+0.378	+0.340	+0.151	-0.154	-0.570
y	-0.497	-0.842	+0.621	-0.438	-0.438	+0.621	-0.815
α'	-0.510	-0.851	+0.613	-0.445	-0.441	+0.624	-0.803
y'	+0.592	+0.395	+0.391	+0.331	+0.142	-0.141	-0.587
$\sec\varphi_0$	1.163	1.903	1.266	1.116	1.114	1.280	1.677
A	2.3	2.5	1.6	1.2	0.5	0.6	3.2
φ_0	-30.7	-58.3	+37.8	-26.4	-26.2	+38.6	-53.4
$\Delta\varphi$	-2.4	-2.2	-2.9	-3.1	-3.3	-3.2	-0.6
λ_0	+43.5	+48.7	+29.7	+21.7	+9.1	-10.4	-79.9
$\Delta\lambda$	+1.4	+3.9	-1.2	+0.6	+0.2	+0.5	-4.3
φ	-33.1	-60.5	+34.9	-29.5	-29.5	+35.4	-54.0
λ	+44.9	+52.6	+28.5	+22.3	+9.3	-9.9	-84.2
L	17.3	17.4	17.2	17.2	17.2	17.2	17.3
l	62.2	70.0	45.7	39.5	26.5	7.3	293.1
с.м.	30.9	30.3	1.2	1.6	2.6	4.1	9.7
в ч/п	♀)		♂)	♂)		♂)	(♂

$P = +1°.2$ $T/2 = 71.4$

$\beta = -3°.3$

$\sin P = +0.021$

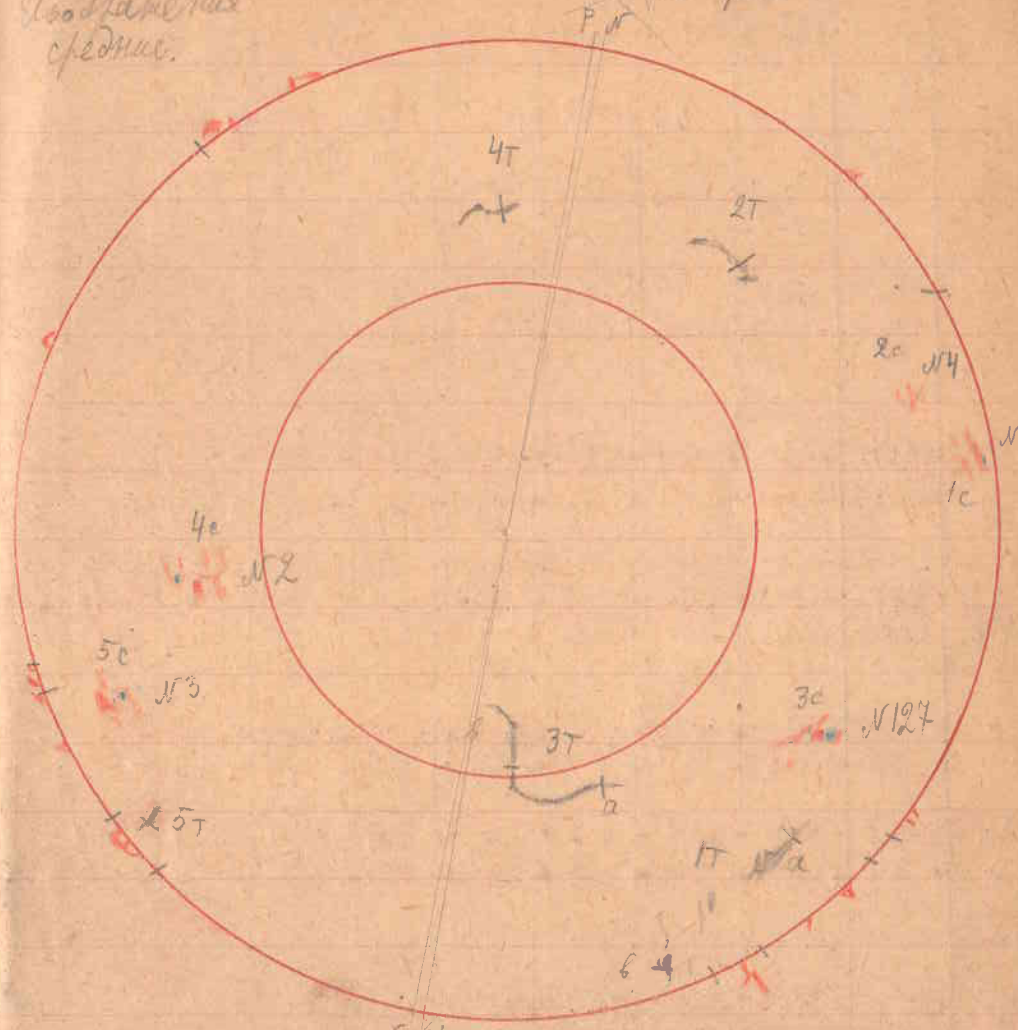
$\cos P = +1.000$

1946 год

№ 1 3/I-46 г $\alpha + 24 14 \Delta = +8°$ зарис. $5^h 42^m - 7^h 19^m$

Общее время 5 42 - 7 51

Изображения средние.



№	1с	2с	3с	4с	5с		Весь диск	ч.з.
инт	2	1-2	3	3	2			
φ	+16	+21	-17	-14	-30	Светлые фл.	2.0	0.0
l	88	75	65	345	320	Темные фл.	2.0	1.0
с.м.	28.9	29.9	30.7	5.8	7.7			
в ч/п	1	4	127	2	3			

№	1m	2m	3m	4m	5m	6m
числ.	3	1?	3	2	1	1
в ряду						
τ_0 τ τ_k						
t_0 t $t/2$						
x						
y						
x' y'						
sec φ_0						
A						
φ_0 $\Delta\varphi$						
λ_0 $\Delta\lambda$						
φ λ						
Ш						
e						
см						

♂ (♃ (♄ (♃
Предположительно

№2 14 I 1946

хр 2414 $\Delta = +1^s$

Зад 10^h06^m —

Запис. прерван. ...

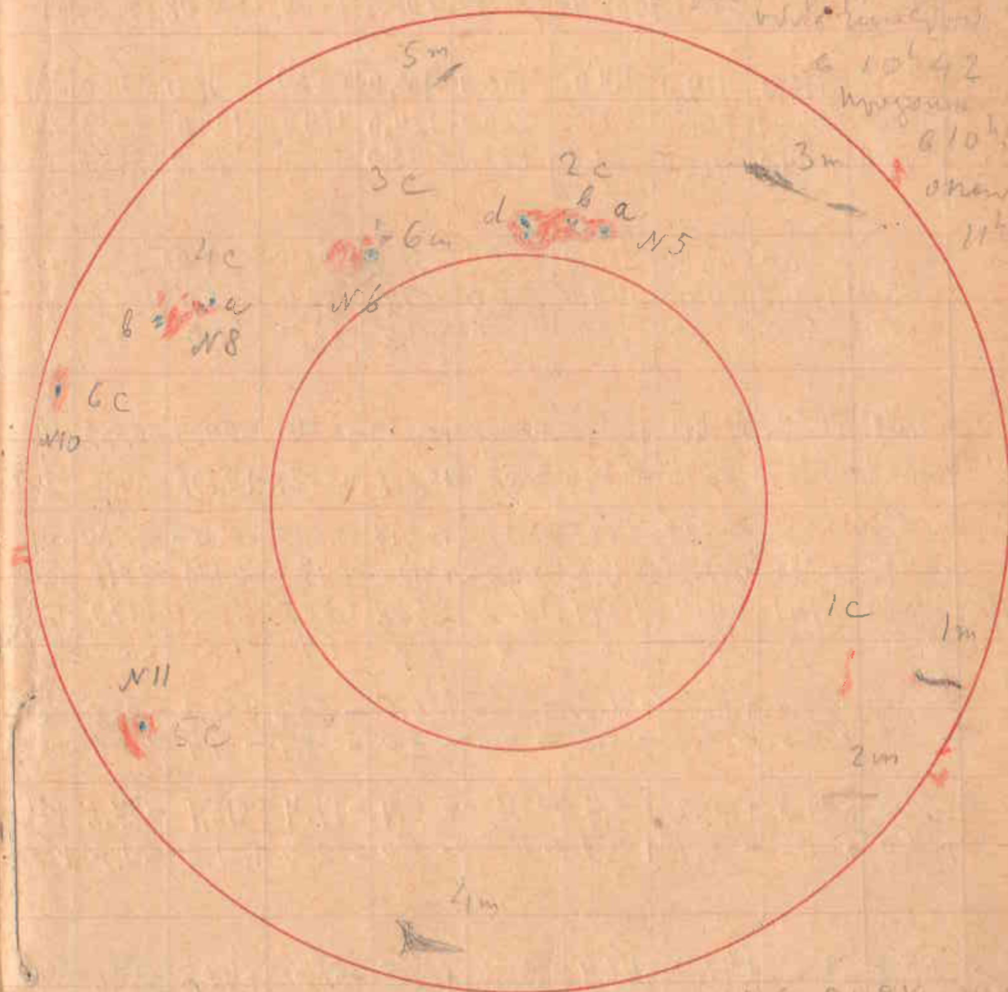
в 10^h42

продолж.

в 10^h53

оконч.

11^h03



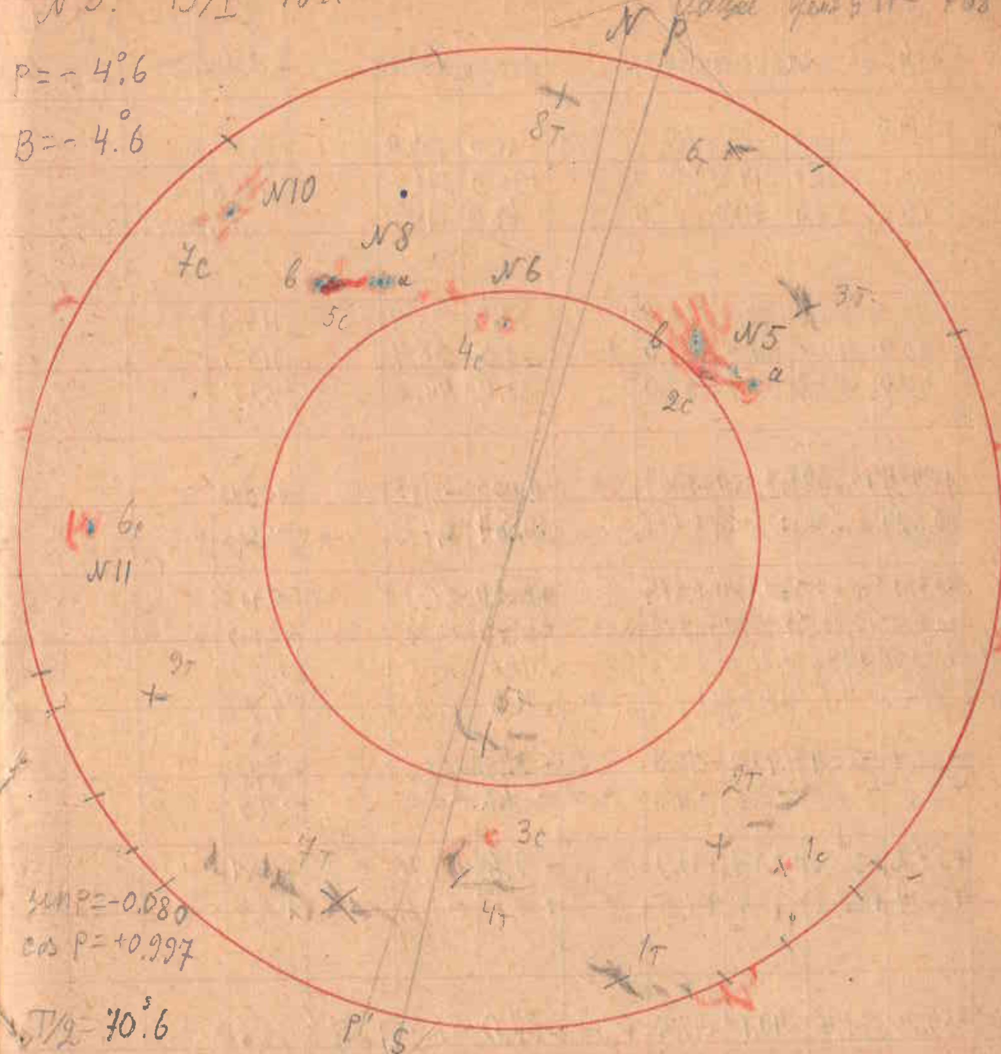
[illegible] напр. ... на диск ... верх

№	1c	2c	3c	4c	5c	6c	
	5	6	7	8	10	9	
числ.	2	3	3	4	3	1	
φ	−30:	+28	+21	+18	−17	+21	... 2.5 ... 0.0
λ	280:	238	210	191	160	166	... 1.5 ... 0.0
	~~+4~~	~~24.3~~	~~26.5~~	~~27.9~~	~~30.3~~	~~29.8~~	
	10.7	13.9	16.0	17.5	19.8	19.4	
	—	5	6	8	11	10	

№ 3. 15/I-46г.

$P = -4°.6$

$B = -4°.6$



$\sin P = -0.080$
$\cos P = +0.997$

$T/2 = 70^s.6$

N	1т	2т	3т	4т	5т	6т	7т	8т	9т	1с
инт.	3	1-2	2	1-2	1	1	2	1	<1	2
время	636-38	648-52	658-704	643-47	648-52	706-08	639-42	706-08	654-57	648-5[illegible]
T_0	136.0	196.0	162.0	114.0	106.0	100.0	53.0	48.0	46.0	218.0
T	156.0	240.0	208.0	208.0	240.0	124.0	174.0	124.0	250.0	240.0
T_k	18.0	44.0	46.0	93.0	135.0	83.0	122.0	76.0	205.0	22.0
t_0	68.0	98.0	81.0	57.0	53.0	50.0	26.5	24.0	23.0	109.0
t	78.0	120.0	104.0	104.0	120.0	62.0	87.0	62.0	125.0	120.0
$t/2$	39.0	60.0	52.0	52.0	60.0	31.0	43.5	31.0	62.5	60.0
x	+0.411	+0.538	+0.411	+0.071	−0.099	+0.269	−0.241	−0.099	−0.559	+0.6[illegible]
y	−0.834	−0.527	+0.676	−0.676	−0.527	+0.898	−0.788	+0.898	−0.486	−0.52[illegible]
x'	−0.798	−0.482	+0.707	−0.668	−0.533	+0.917	−0.805	+0.787	−0.530	−0.469
y'	+0.477	+0.578	+0.356	+0.125	−0.057	+0.196	−0.177	−0.171	−0.518	+0.734
$\sec \varphi_0$	1.658	1.141	1.414	1.344	1.182	2.508	1.685	1.621	1.179	1.132
A	3.6	3.0	2.4	0.8	0.4	2.3	1.4	1.3	2.8	3.9
φ'	−52.9	−28.8	+45.0	−41.9	−32.2	+66.5	−53.6	+51.9	−32.0	−28.[illegible]
$\Delta\varphi$	−2.9	−3.5	−4.0	−4.5	−4.6	−4.0	−4.4	−4.4	−3.6	−2.6
λ_0	+52.3	+41.3	+30.2	+9.7	−3.9	+29.4	−17.4	−16.1	−37.6	+56.[illegible]
$\Delta\lambda$	+4.8	+1.6	−2.4	+0.7	−0.2	−5.0	−2.0	+1.6	−1.7	+2.[illegible]
φ	−55.8	−32.3	+41.0	−46.4	−36.8	+62.5	−58.0	+47.5	−35.6	−30.[illegible]
λ	+57.1	+42.9	+27.8	+10.4	−4.1	+24.4	−19.4	−14.5	−39.3	+58.[illegible]
L	219.8	219.6	219.6	219.7	219.6	219.5	219.8	219.5	219.6	219.6
l	276.9	262.5	247.4	230.1	215.5	243.9	200.4	205.0	180.3	277.9
с.м.	10.9	12.0	13.2	14.5	15.6	13.4	16.7	16.4	18.3	10.9
[illegible]	♂	(♃	♃	(♃	(♃	♃	♄	(♄	(♄)	

Изображения плохие.

N	1с	2с	3с	4с	5с	6с	7с	
	5	6	11	7	8	10	9	
инт.	2	3	2	2	4	3-4	2	
φ	−31	+29	−40	+20	+17	−19	+21	Светлые 2.5 0.5
l	278	237	232	209	190	163	166	Темные 3.0 0.5
с.м.	10.9	14.0	14.3	16.1	17.5	19.6	19.4	
[illegible]	—	5	—	6	8	11	10	

N	1т	2т	3т	4т	5т	6т	7т	8т	1с
инт	3	1-2	2	1	2	1	2	1	2
время	6 26-28	6 38-44	6 46-49	6 34-37		6 50-52	6 30-33		6 38-44
τ_0	144.0	212.0	185.0	132.0		66.0	64.0		228.0
τ	160.0	238.0	214.8	208.0		132.0	176.8		238.0
τ_2	16.0	26.0	30.0	75.0		68.0	114.0		10.0
t_0	72.0	106.0	92.5	66.0		33.0	32.0		114.0
t	80.0	119.0	107.4	104.0		66.0	88.4		119.0
$t/2$	40.0	59.5	53.7	52.0		33.0	44.2		59.5
x	+0.454	+0.660	+0.550	+0.199		0.000	-0.173		+0.773
y	-0.824	-0.536	+0.648	-0.675		+0.884	-0.779		-0.536
x'	-0.781	-0.475	+0.694	-0.654		+0.880	-0.791		-0.465
y'	+0.525	+0.705	+0.490	+0.258		-0.079	-0.103		+0.818
$\sec\varphi_0$	1.601	1.136	1.389	1.322		2.106	1.635		1.129
A	4.3	4.1	3.5	1.7		0.8	0.9		4.7
φ_0	-51.4	-28.4	+43.9	-40.8		+61.6	-52.3		-27.7
$\Delta\varphi$	-2.8	-3.0	-3.8	-4.8		-4.6	-5.0		-1.9
λ_0	+57.2	+53.3	+42.9	+19.9		-9.6	-9.7		+67.4
$\Delta\lambda$	+5.4	+2.2	-3.4	+1.5		+1.5	-1.2		+2.4
φ	-54.2	-31.4	+40.1	-45.6	+17	+57.0	-57.3	+25	-29.6
λ	+62.6	+55.5	+39.5	+21.4		-8.1	-10.9		+69.8
L	206.7	206.6	206.5	206.6		206.5	206.7		206.6
l	269.3	262.1	246.0	228.0	200	198.4	195.8	169	276.4
с.м	11.5	12.1	13.3	14.6	16.8	16.9	17.1	19.1	11.0
сф N	♂	4)	)	4)	(8 ♄)	♄)	)	(10 ♄)	

$P = -5^\circ.1$ $\quad V/2 = 70.5$

$B = -4^\circ.7$

$\sin P = -0.089$

$\cos P = +0.996$

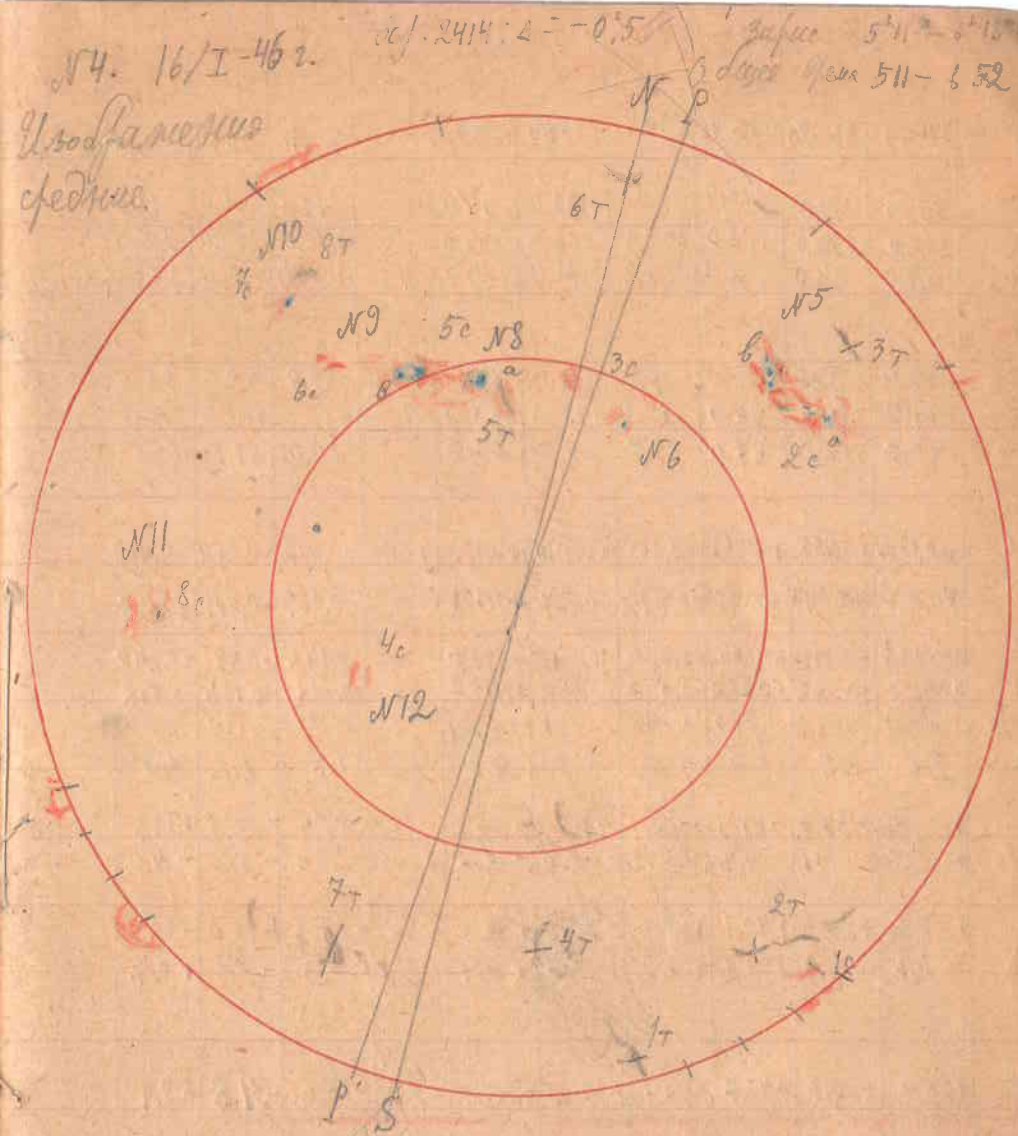
4) 4)

Предполож.

№4. 16/I-46 г. $\quad$ Ф/. 2414 : $\Delta = -0^\circ.5$ $\quad$ Запис $5^h11^m - 6^h13^m$

Общее время 511 – 652

Изображения средние.



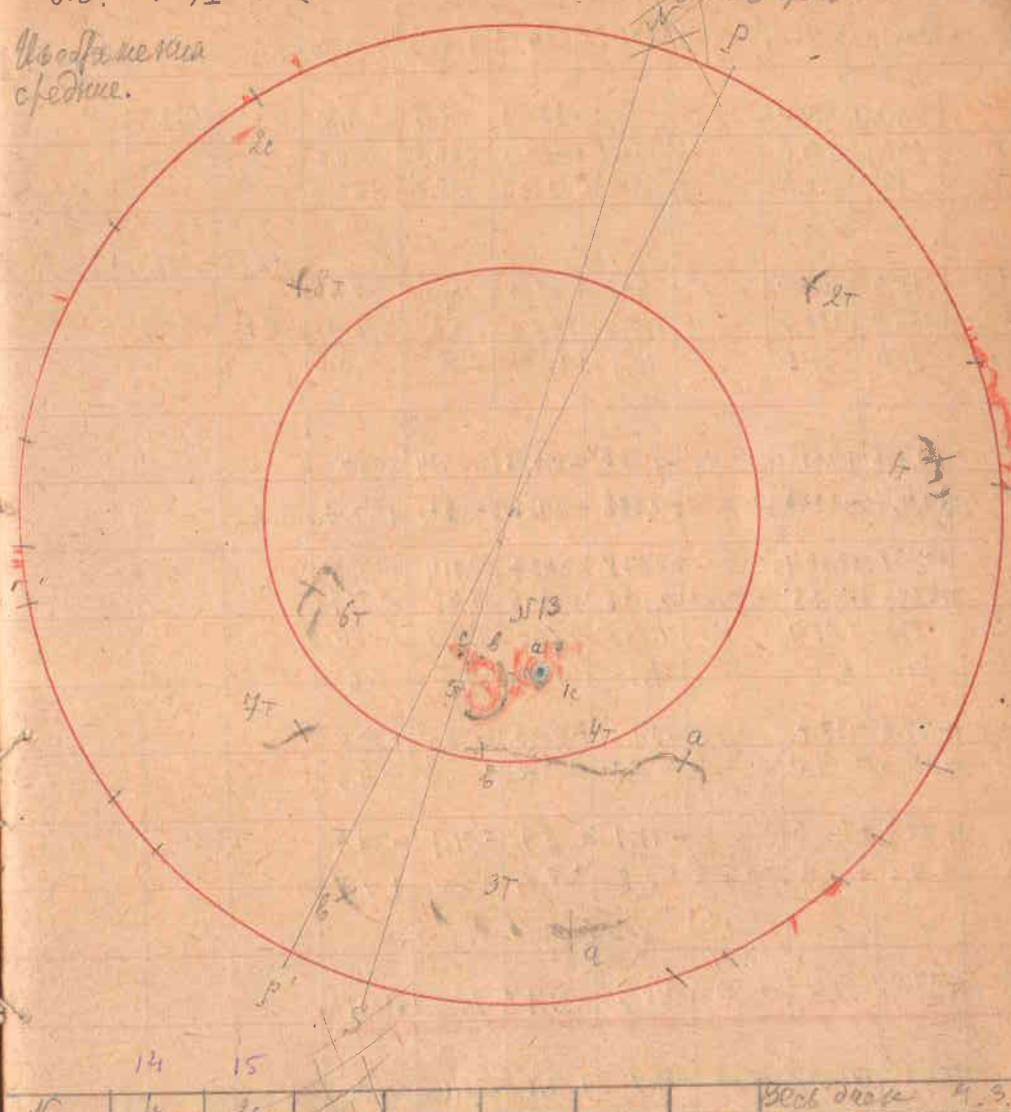
	5	6	7	12	8	13	9	10	
N	1с	2с	3с	4с	5с	6с	7с	8с	Весь диск 4.3
инт	2	3	1	2	2	3	1	3	
φ	-30	+29	+22	-12	+17	+15	+21	-18	Светлые рл. 25 1.5
l	276	238	210	190	191	178	168	160	Темные рл. 25 1.0
с.м	11.0	13.9	16.0	17.5	17.5	18.4	19.2	19.8	
сф N	—	5	6	12	8	9	10	11	

N	1т	2т	3тa	3тb	4тa	4тb	5т	6т	7т	8т	
инт.	2	2	<1	1	1-2	<1	2	2	1-2	1-2	P=−10°.1
время	8 11-14	8 16-20	7 43-46	7 40-42	7 56-59	7 50-7 53		8 06-10	7 50-54	8 11-15	B=−5°.7
τ_0	238.0	179.0	144.0	70.0	192.0	135.0		92.0	91.0	66.0	
τ	262.0	232.0	188.0	158.0	262.0	254.0		276.0	254.0	262.0	
τ_k	24.0	54.0	42.0	88.0	71.0	120.0		183.0	168.0	197.0	sin P=−0.17[illegible]
											cos P=+0.98[illegible] +0.984
t_0	119.0	89.5	72.0	35.0	96.0	67.5		46.0	45.5	33.0	
t	131.0	116.0	94.0	79.0	131.0	127.0		138.0	127.0	131.0	
$t/2$	65.5	58.0	47.0	39.5	65.5	63.5		69.0	63.5	65.5	T/2=69°
x	+0.772	+0.455	+0.361	−0.065	+0.440	+0.058		−0.332	−0.260	−0.469	
y	+0.327	+0.547	−0.735	−0.822	−0.327	−0.401		−0.089	−0.401	+0.327	
x'	+0.457	+0.618	−0.660	−0.820	−0.245	−0.385		−0.146	−0.441	+0.240	
y'	+0.703	+0.352	+0.484	+0.080	+0.490	+0.127		−0.311	−0.186	−0.518	
sec φ_0	1.124	1.272	1.331	1.748	1.031	1.084		1.011	1.114	1.030	
Δ	4.5	2.5	3.7	0.8	2.9	0.8		1.8	1.2	3.0	
φ_0	+27.2	+38.2	−41.3	−55.1	−14.2	−22.6		−8.4	−26.2	+13.9	
$\Delta\varphi$	−3.5	−5.1	−4.4	−5.6	−5.0	−5.6		−5.4	−5.6	−4.8	
λ_0	+52.2	+26.6	+40.1	+8.0	+30.3	+7.9		−18.3	−12.0	−32.2	
$\Delta\lambda$	−2.3	−2.0	+3.2	+1.2	+0.7	+0.4		−0.3	−0.6	+0.7	
φ	+23.7	+33.1	−45.7	−60.7	−19.2	−28.2	−20	−13.8	−31.8	+9.1	
λ	+49.9	+24.6	+43.3	+9.2	+31.0	+8.3		−18.6	−12.6	−31.5	
L	60.9	60.9	61.2	61.2	61.0	61.1		61.0	61.1	60.9	
l	110.8	85.5	104.5	70.4	92.0	69.4	66	42.4	48.5	29.4	
с.м.	23.6	25.5	24.0	26.6	25.0	26.7	27.0	28.7	28.3	29.7	
кл/N	1	4	2		3		13 5	7	6	8	

сф. 2414; Δ = +0ˢ.5   зарис. 6ʰ34ᵐ – 7ʰ32ᵐ

№5. 27/I-46г   Общее время 6 34 – 8 20

Изображения средние.

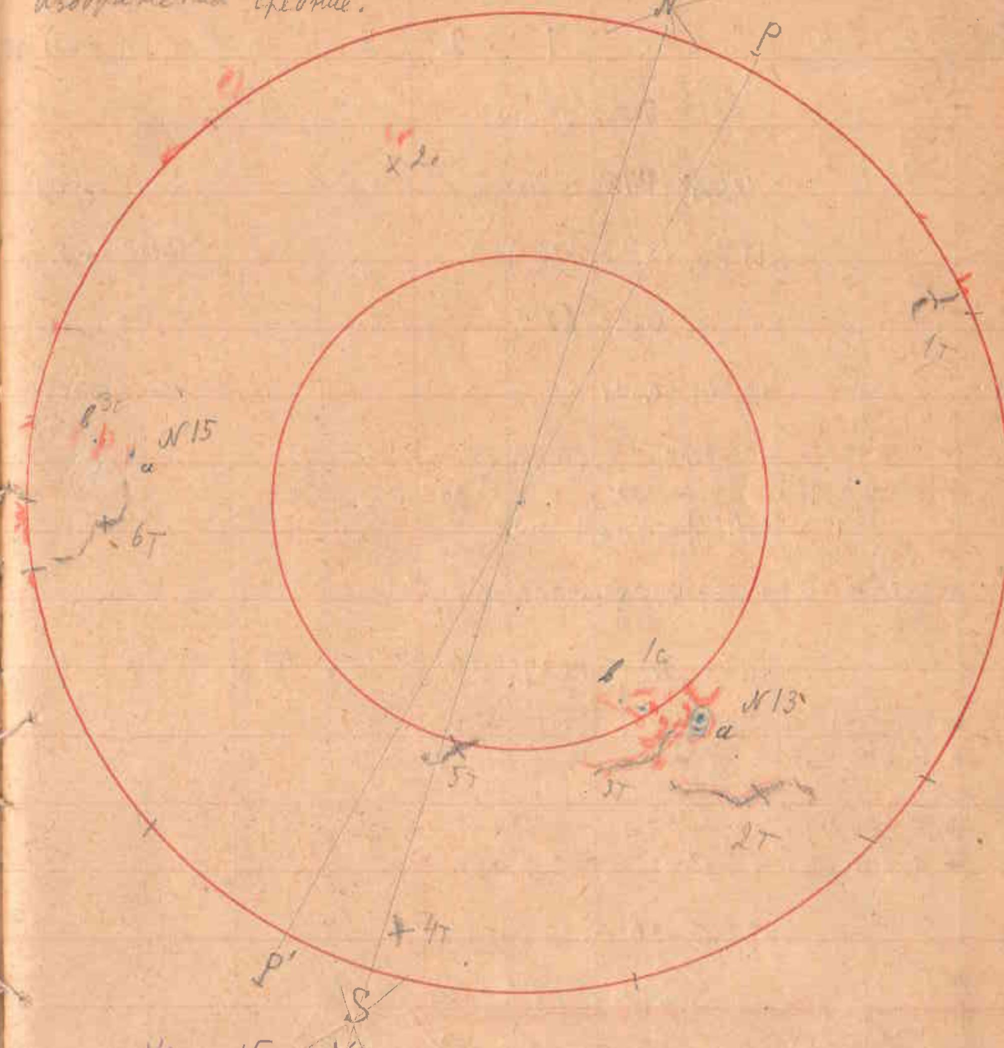


N	1с	2с						Вес дня ч.з.	
	14	15							
инт.	3	2							
φ	−16	+24			Светлые фл.			1.5	2.5
l	66	355			Темные фл.			2.5	2.0
с.м.	27.0	1.3							
кл/N	13	—							

N	1т	2т	3т	4т	5т	6т	2с			
шт.	2	1-2	1	2	2	2	2			
Время	7 03–05	6 56–59		6 53–55	6 56–59	7 00–02	7 03–05	P = −	10°.9	П/2 = 69ˢ.1
r_0	230.0	210.0		81.0	120.0	26.0	54.0	B = −	5°.8	
r	240.0	250.0		134.8	250.0	266.0	240.0			
r_k	10.0	40.0		54.0	110.0	240.0	186.0			
								sin P =	− 0.189	
t_0	115.0	105.0		40.5	60.0	13.0	27.0			
t	120.0	125.0		117.4	125.0	133.0	120.0	cos P =	+ 0.982	
$t/2$	60.0	62.5		58.7	62.5	66.5	60.0			
x	+0.796	+0.615		−0.263	−0.036	−0.774	−0.478			
y	+0.497	−0.428		−0.528	−0.428	−0.273	+0.497			
x'	+0.638	−0.304		−0.568	−0.427	−0.414	+0.398			
y'	+0.688	+0.685		−0.158	+0.046	−0.708	−0.563			
sec φ_0	1.298	1.050		1.215	1.106	1.099	1.090			
A	5.6	4.2		1.1	0.4	4.5	3.6			
φ_0	+ 39.6	− 17.7		− 34.6	− 25.3	− 24.5	+ 23.5			
$\Delta\varphi$	− 2.6	− 4.0		− 5.7	− 5.8	− 3.7	− 4.6			
λ_0	+ 63.2	+ 46.0		− 11.1	+ 2.9	− 51.1	− 37.9			
$\Delta\lambda$	− 4.6	+ 1.3		− 0.8	+ 0.2	− 2.0	+ 1.5			
φ	+37.0	−21.7	−20	−40.3	−31.1	−28.2	+18.9			
λ	+58.6	+47.3		−11.9	+ 3.1	−53.1	−36.4			
L	35.2	35.2		35.3	35.2	35.2	35.2			
l	93.8	82.5	63	23.4	38.3	342.1	358.8			
С.М.	24.8	25.7	27.2	30.2	29.1	2.3	1.1			
	[illegible]	[illegible]	13 [illegible]	[illegible]	[illegible]	[illegible]				

№ 6. 29/I – 46 г. $\times 1.2414$; $\Delta = -0^s.5$ замес. $6^h03^m - 6^h47^m$ шт.

Изображения средние. Общее время 6 03 – 7 05



	14	15	16				
N	1с	2с	3с				Вес диск 4.3.
шт.	3	2	2				
φ	−15	+23	−16				Светлые фл. 2.0 0.5
l	63	357	336				Темные фл. 2.0 0.5
С.М.	27.2	1.2	2.8				
Ч.N	13	—	15				

N	1m	2m	3m	4m	5m	6m	ic
инт	2	2	3	3	1	2	3
время			6h35m–53	6h55–7h00	7h02–7h10m		
t_0			7.54	21.3	32.0		
t			117.6	132.3	126.4		
$t/2$			58.8	66.2	63.2		
x			+0.241	−0.651	−0.452		
y			−0.524	−0.283	+0.401		
x'			−.467	−.406	+.304		
y'			+.339	−.584	−.522		
$\sec\varphi_0$			1.130	1.095	1.029		
A			2.7	3.7	3.1		
φ_0			−27.8	−24.0	+17.7		
$\Delta\varphi$			−5.5	−4.5	−5.0		
λ_0			+22.5	−39.7	−32.5		
$\Delta\lambda$			+1.4	−1.7	+1.0		
φ	−12	−15	−33.3	−28.5	+12.7	−17	
λ			+23.9	−41.4	−31.5	−17	
L			22.2	22.1	22.0		
ℓ	66	60	56.1	340.7	350.5	332	
с.м.	27.0	27.4	27.7	2.7	1.7	3.1	

$P = -11.3$

$B_0 = -5.9$

$\sin P = -0.196$

$\cos P = +0.981$

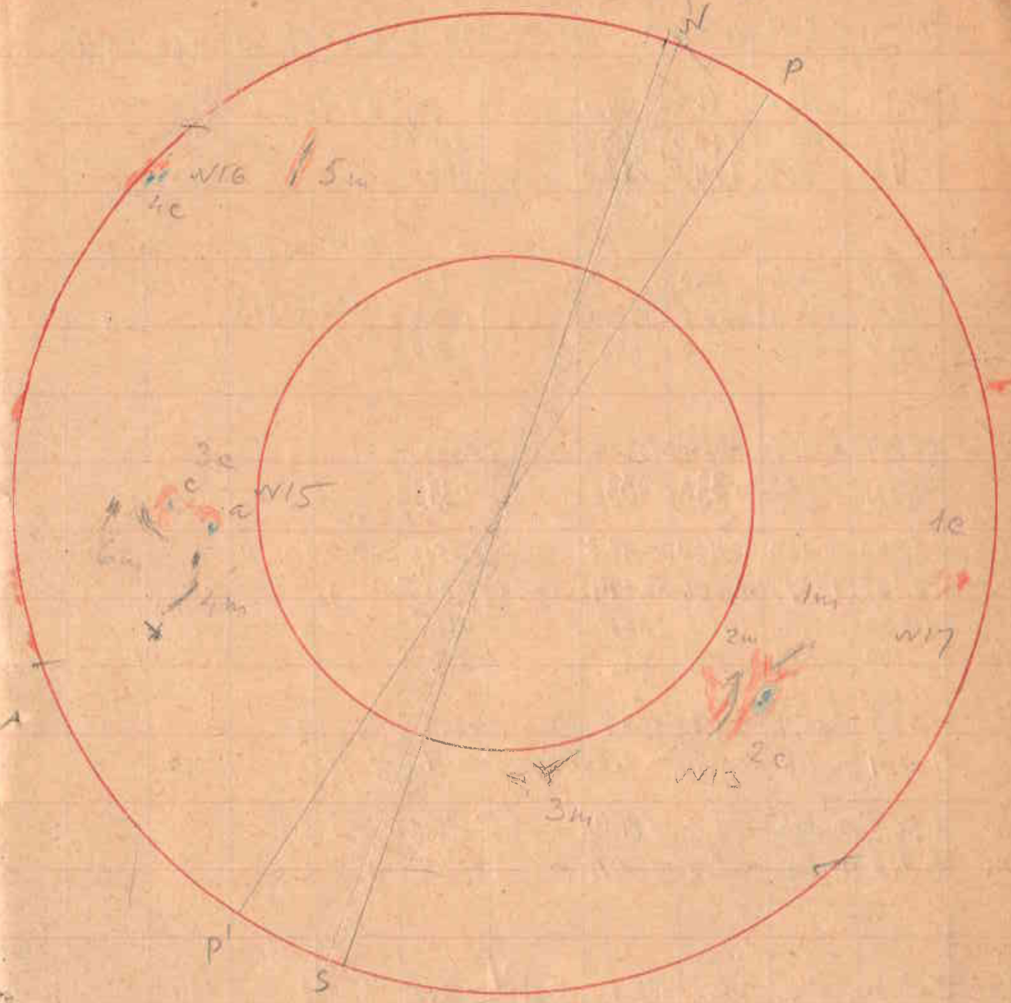
$T/2 = 69.0$

$2/\pi = 0.01449$

N 7 30 I 1946

x_y 2414 $\Delta = -3.0$ 3a 5h15m

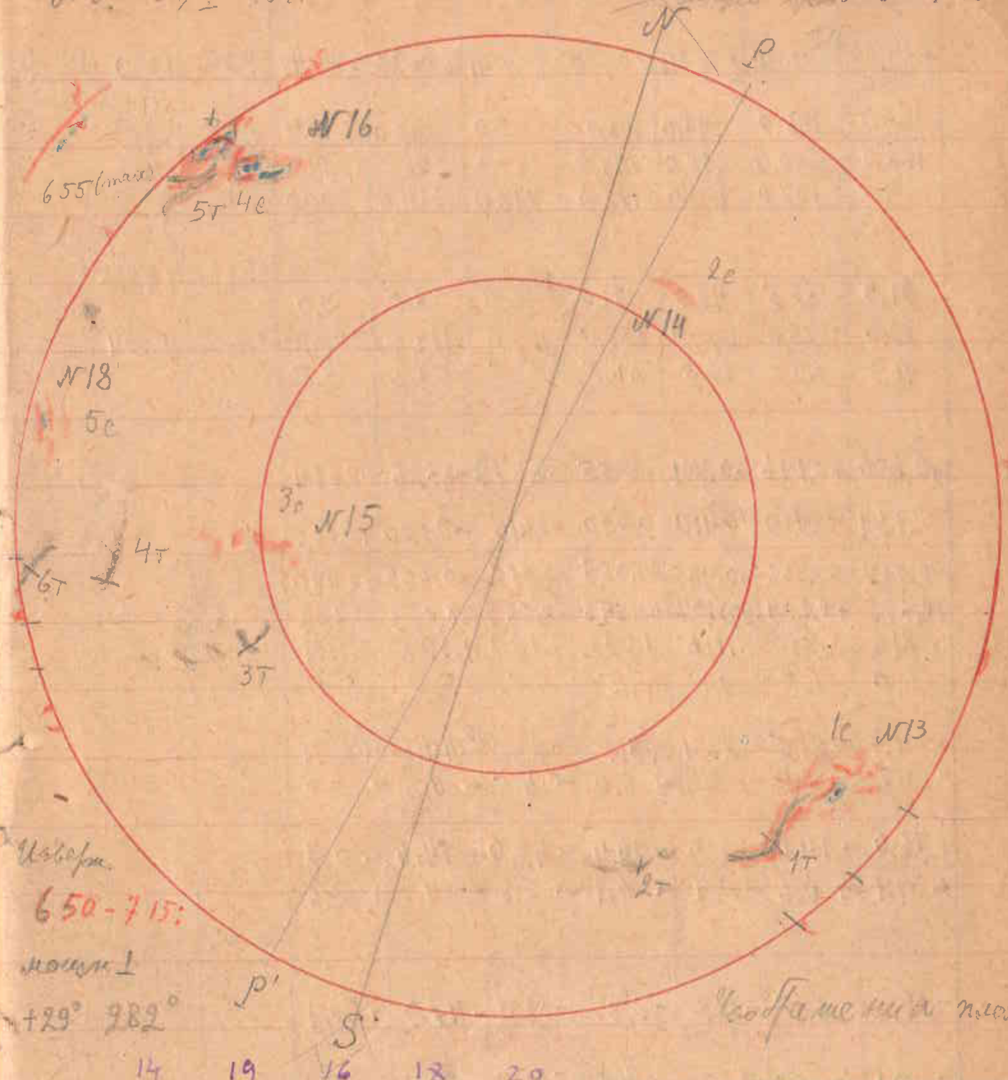
I 5h15 – 7h10



	17	14	16	18		
N	1c	2c	3c	4c	Пол. диск	У.З.
инт	3	3	2	2		
φ	+12	−15	−15	+27	Сводн. фак. 2.0	0.0
ℓ	89	64	340	310	Пятн. фак. 1.5	0.0
с.м.	25.2	27.1	2.5	4.8		
N	17	13	15	16		

N	1т	2т	3т	4т	5т	6т				
инт	1-2	1	2	1	1-2	2				
Время	708-11	704-07	712-16	712-716		712-716	P = -	11°.7	T/2 = 68°.9	
ζ	216.0	173.0	66.0	34.0		3.0	B = -	6°.0		
r	240.0	228.8	260.0	260.0		260.0				
r_μ	27.0	56.0	194.0	226.0		257.0				
							sin P =	-0.203		
t_0	108.0	86.5	33.0	17.0		1.5	cos P =	+0.979		
t	120.0	114.4	130.0	130.0		130.0				
t/2	60.0	57.2	65.0	65.0		65.0				
x	+0.697	+0.425	-0.464	-0.697		-0.922				
y	-0.491	-0.558	-0.333	-0.333		-0.333				
x'	-0.340	-0.460	-0.420	-0.467		-0.513				
y'	+0.782	+0.529	-0.386	-0.614		-0.835				
sec φ_0	1.063	1.126	1.102	1.131		1.165				
A	5.0	3.5	2.5	4.2		5.8				
φ_0	-19.9	-27.4	-24.8	-27.8		-30.9				
Δφ	-3.4	-4.8	-5.4	-4.3		-1.4				
λ_0	+56.2	+36.6	-25.2	-44.0		-76.6				
Δλ	+1.8	+1.8	-1.1	-2.2		-3.5				
φ	-23.3	-32.2	-30.2	-32.1	+21	-32.3				
λ	+58.0	+38.4	-26.3	-46.2		-80.1				
L	8.8	8.8	8.8	8.8		8.8				
ℓ	66.8	47.2	342.5	322.6	295	288.7				
г.м.	26.9	28.4	2.3	3.8	5.9	6.4				
	[illegible]				16					

№8. 31/I-46г. x/ 2414 Δ = -1.5 зарис. 5^h58^m-6^h57^m

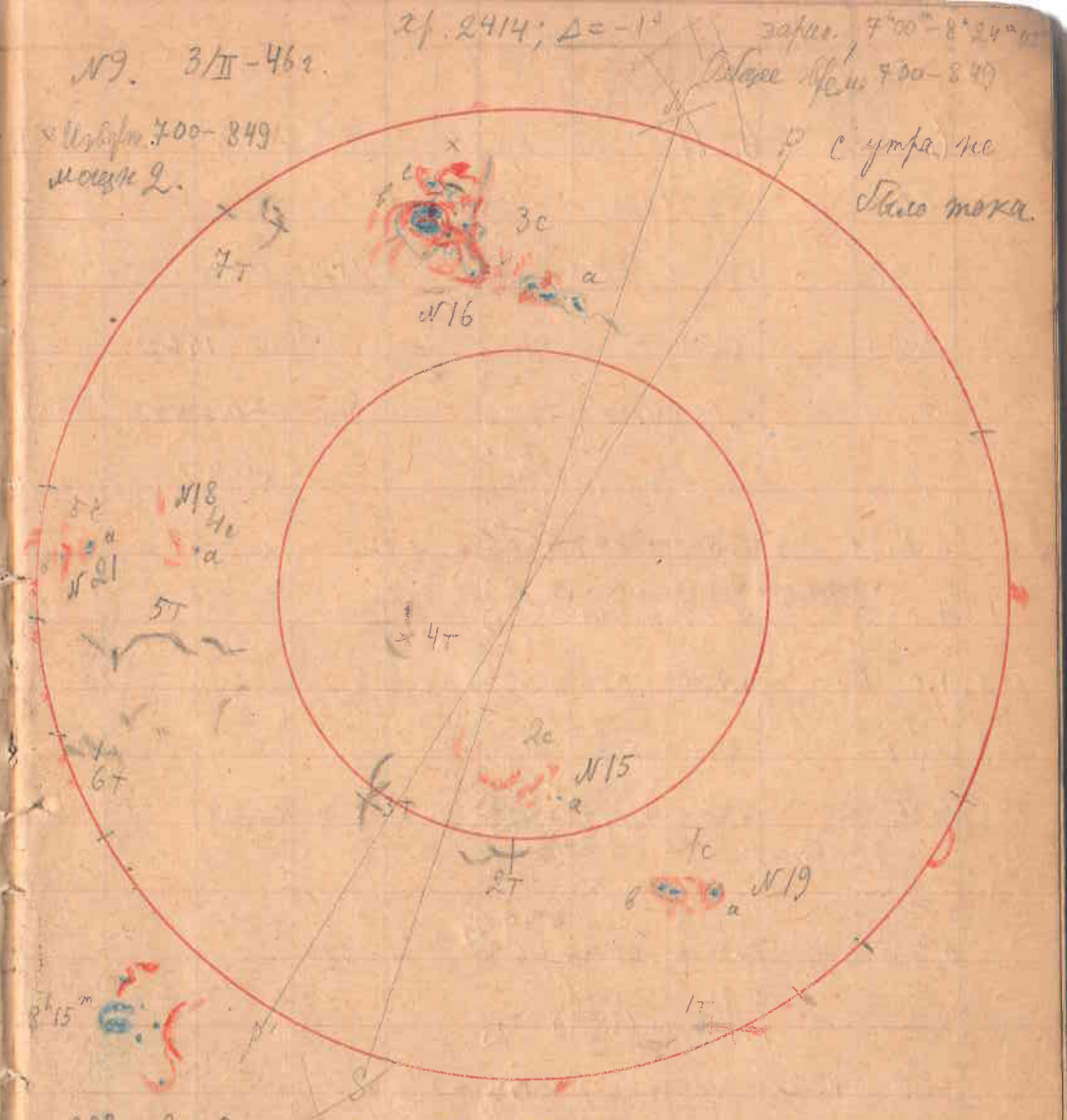


Ист.фот. 650-715: мощн 1 +29° 282°

Изображение плохое

	14	19	16	18	20		
N	1с	2с	3с	4с	5с		Весь диск 3.5
инт	2	1	2	3	2		
φ	-17	+30	-16	+26	-17		Светлые фл. 2.5 0.5
ℓ	65	25	340	297	294		Темные фл. 1.5 0.0
г.м.	27.0	30.1	2.5	5.8	6.0		
№	13	14	15	16	18		

№	1т	2т	3т	4т	5т	6т	7т		
инт	1	2-3	2	1-2	3	1	2		
время	8 31-33	8 38-41	8 38-41	8 42-45	8 38-41	8 34-37	8 47-49	P= - 13°,0	V= 68°,5
τ_0	182.0	145.0	97.0	102.0	32.0	15.0	18.0	B= - 6°,2	
τ	186.0	250.0	250.0	274.0	250.0	228.8	218.0		
τ_k	4.0	105.0	153.0	172.0	218.0	214.0	200.0		
								sin P= - 0,225	
t_0	91.0	72.5	48.5	51.0	16.0	7.5	9.0		
t	93.0	125.0	125.0	137.0	125.0	114.4	109.0	cos P= + 0.974	
$t/2$	46.5	62.5	62.5	68.5	62.5	57.2	54.5		
x	+0,650	+0,146	-0,204	-0,255	-0,679	-0,726	-0,664		
y	-0,734	-0,410	-0,410	0.000	-0,410	-0,550	+0,605		
x'	-0,569	-0,366	-0,445	-0,057	-0,552	-0,699	+0,440		
y'	+0,798	+0,234	-0,107	-0,248	-0,569	-0,583	-0,783		
$\sec\varphi_0$	1.216	1.075	1,116	1.002	1,199	1.398	1.114		
A	6,0	1.5	0,8	1.5	4,2	5,0	5.4		
φ_0	-34.7	-21.5	-26.4	- 3,3	-33.5	-44,3	+26,1		
$\Delta\varphi$	- 1.5	- 6.0	- 6.2	- 6.0	- 4.5	- 3.6	- 3.0		
λ_0	+76.0	+14.6	- 6.9	- 14.4	- 43.0	-54.6	-60,7		
$\Delta\lambda$	+ 4.1	+ 0,6	- 0,4	- 0.1	- 2.8	- 4.9	+ 2,6		
φ	-36.2	-27.5	-32.6	- 9,3	-38.0	- 47.9	+23,1		
λ	+80,1	+15.2	- 7.3	- 14.5	-45,8	-59.5	-58.1		
L	328.6	328.5	328.5	328.4	328.5	328.5	328.4		
l	48.7	343.7	321.2	313.9	282.7	269.0	270.3		
с. м.	28.3	2.2	3.9	4.5	6.8	7.9	7.8		



№	2	1c	4c	3c	4c	5c		Весь диск	ч.з.
инт	2	1-2	3-4	1	2				
φ	-19	-16	+27	-17	-25		Светлые фи	3.0	1.0
λ	5	338	295	292	257		Темные фи	2.0	1.0
с. м.	31,6	2.6	5.9	6,1	8,8				
ф/л	19	15	16	18	21				

N	1m	2m	3m	4m	5m	6m
инт	2	1	2	2	3	1
в [illegible]	6h50-53		6h57-7	6h52-54	6h57 59	
t_0	60.8		28.8	5.0	20.6	
t	124.2		124.2	66.0	98.6	
$t/2$	62.1		62.1	33.0	49.3	
x	-0.019		-.487	-.409	-.420	
y	-.419		-.419	+.876	+.~~721~~ 693	
x'	-.412		-.521	+.757	~~+605~~ 577	
y'	+.095		-.375	-.601	-.570	
$x\cos\varphi_0$	1.097		1.164	1.530	1.255	
A	0.6		2.7	5.8	4.5	
φ_0	-24.3		-30.8	+49.2	~~+37.2~~ +35.2	
$\Delta\varphi$	-6.3		-5.7	-2.5	-4.5	
λ_0	+6.0		-25.8	-66.9	~~-46.3~~ 44.2	
$\Delta\lambda$	+0.3		-1.6	+6.5	+3.2	
φ	-30.6	+32	-36.5	+46.7	+30.7	-23
λ	+6.3		-27.4	-60.4	-41.0	
L	316.9		316.8	316.3	316.3	
ℓ	323.2	296	289.4	255.9	275.3	260
[illegible]	3.8	~~6.4~~	6.3	~~9.9~~	7.5	8.6
[illegible]	1	3	2	6	4	5

$P = -13.4$

$B_0 = -6.3$

$T/2 = 68.4$

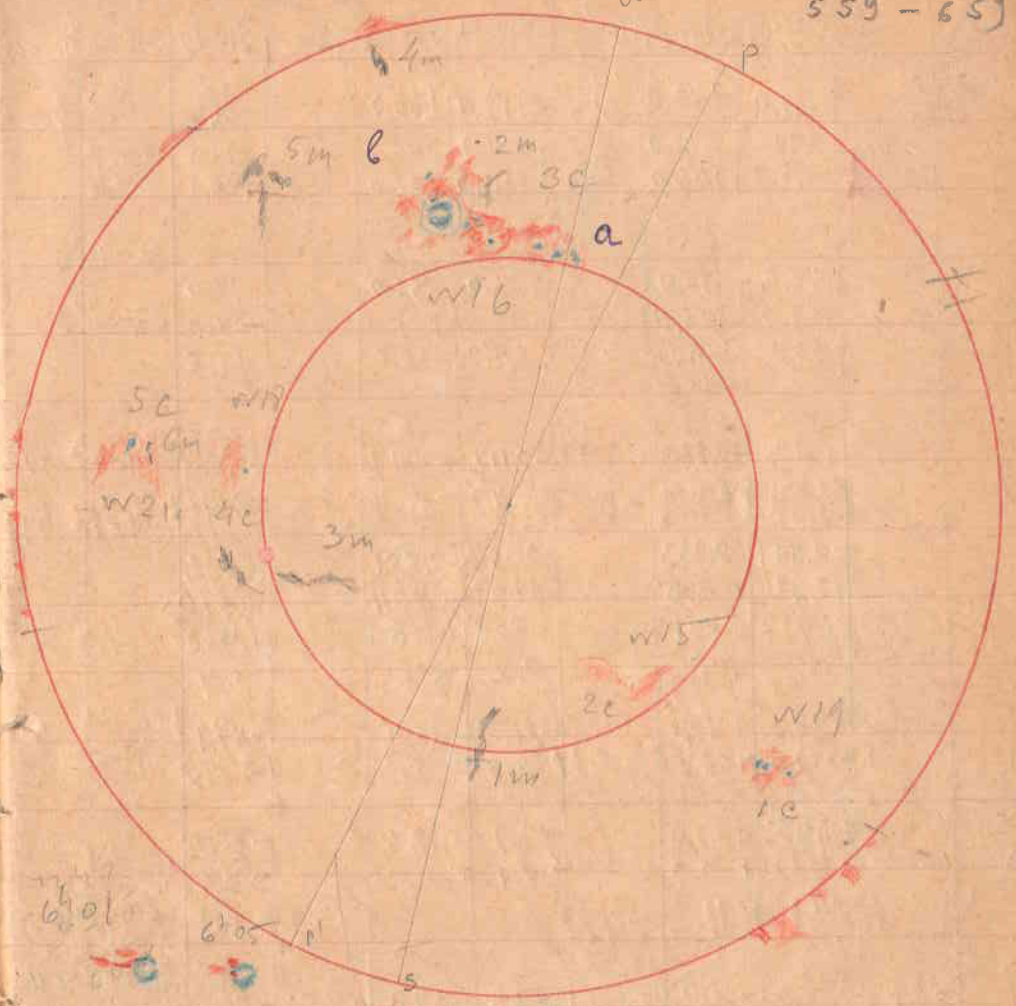
$2/T = 0.01462$

$\sin p = -0.232$

$\cos p = +0.973$

№10 4 II 1946 Lj 2414 Δ = -1s 3a j 5h59m – 6h42

559 – 659



конец 6h08 мощ 1

	21	16	18	20	22
N	1c	2c	3c	4c	5c
ИНТ	2	2	3	2	3
φ	-20	-16	+28	-14	-24
ℓ	5	343	296	293	264
[illegible]	31.6	2.3	5.8	6.4	8.3
в [illegible]	19	15	16	18	21

Вес [illegible]	3.0	1.0
Тем [illegible]	1.5	1.5

N	1т	2т	3т	4т	5т a	5т б	6т	7т	8с	
инт.	2	2	1-2	2	2-3	2	2	1		
время		905-09	918-21		914-17	905-08	922-	910-13	~~918-21~~	T/2 = 68.3
T_0		144.0	166.0		112.0	164.0		34.0	~~16.0~~	=
T		242.0	272.0		256.0	242.0		214.0	~~272.0~~	
$T_к$		98.0	106.0		144.0	178.0		180.0	~~256.0~~	
									P = −13°8	
t_0		72.0	83.0		56.0	32.0		17.0		
t		121.0	136.0		128.0	121.0		107.0	B = −6°3	
$t/2$		60.5	68.0		64.0	60.5		53.5		
x		+0.168	+0.220		−0.117	−0.417		−0.534	sin P = −0.239	
y		−0.464	−0.089		−0.349	−0.464		−0.622	cos P = +0.971	
x'		−0.411	−0.033		−0.367	−0.551		−0.732		
y'		+0.274	+0.235		−0.031	−0.294		−0.370		
sec φ_0		1.097	1.001		1.075	1.198		1.468		
A		1.9	1.5		0.2	2.2		3.4		
φ_0		−24.3	−1.9		−21.5	−33.4		−47.1		
$\Delta\varphi$		−6.0	−6.1		−6.3	−5.9		−5.3		
λ_0		+17.5	+13.6		−1.9	−20.6		−32.9		
$\Delta\lambda$		+0.9	+0.0		−0.1	−1.5		−3.6		
φ	−21	−30.3	−8.0	+32	−27.8	−39.3	+25:	−52.4		
λ		+18.4	+13.6		−2.0	−22.1		−36.5		
L		301.9	301.8		301.8	301.9		301.9		
l	9	320.3	315.4	293	299.8	279.8	270:	265.4		
С.М.	31.3	4.0	4.4	6.1	5.5	7.1	7.8	8.2		
гр.	19	2	3	16	4 (5т a, 5т б)		6	7	предпол.	

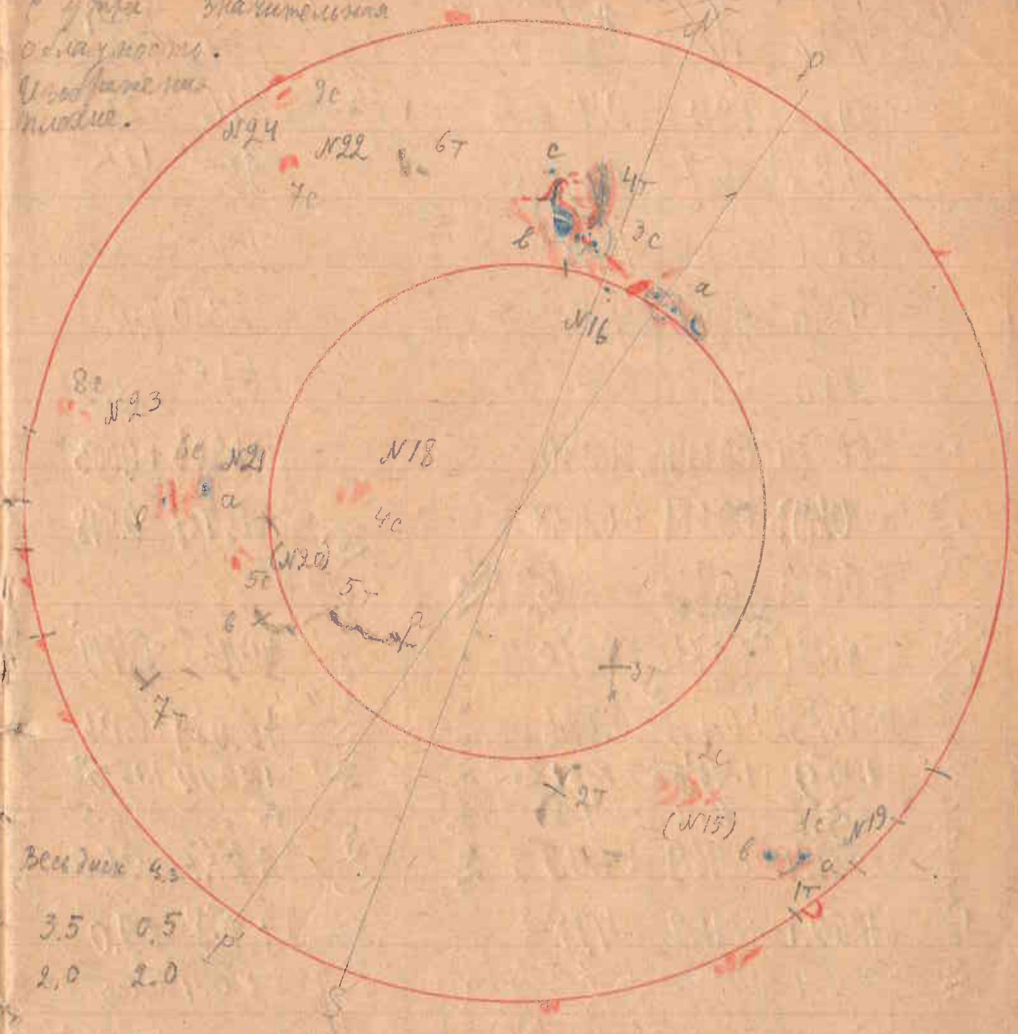
(6т: Не успел [illegible] (зат[illegible]).)

Светлые фа[келы] — Темные фа[келы]

№ 11. 5/II-46 г. х/. 2414; Δ = +0.5 зарис. 752 – 858

Общее время 752 – 922

С утра значительная облачность. Изображение плохое.



	21	16	18	20	23	22	24	25	26
N	1с	2с	3с	4с	5с	6с	7с	8с	9с
инт.	2	1-2	5	1	2	2-3	3	2	2
φ	−20	−15	+26	−16	−30	−24	+16	−18	+26
l	6	345	299	290	275	260	248	235	232
С.М.	31.5	2.1	5.6	6.3	7.4	8.6	9.5	10.5	10.7
N	19	на мест. 15	16	18	на мест. 20	21	22	23	24

Гр	1	2	3	4	5 эрупт.	6 a	6 b	7т	8
№		602-615	632-643	656-706	эрупт.			645-655	615-31
шт	1	2	4	2	5	z-3		2-3	4
a_0		176	143	28				151.0	116
a		196	199	94				246	233
$\frac{a}{2}$		18	57	65				95	117
t_0		88.0	71.5	14.0				75.5	58.0
t		98.0	99.5	47.0				123.0	116.5
$\frac{t}{2}$		49.0	49.8	23.5				61.5	58.2
x	По тен. фл. за 5/II (3т)	+0.574	+0.319	−0.140	По группе № 16	(по группе № 18)		+0.206	+0.003
y		−0.693	+0.681	+0.938				+0.427	−0.518
x'		−0.521	~~+0.730~~	+0.870				+0.465	−0.499
y'		+0.732	~~+0.133~~	−0.376				+0.089	+0.136
sec φ		1.179	1.4649	2.0318				1.1294	1.155
		−3.2	−6.4	−4.2				−6.5	−6.5
φ_0		−31.4	+46.9	+60.5				+27.7	−30.0
λ_0		+59.1	+11.2	−49.8				+5.8	+9.0
		+3.4	−1.2	+7.5				−0.4	+0.5
φ	−8::	−34.6	+40.5	+56.3	+24.0	−22:	−22:	+21.2	−36.5
λ		+62.5	+10.0	−42.3				+5.4	+9.5
χ		264.0	263.8	263.6				263.6	263.9
l	315::	326.5	273.8	221.3	280.0	292:	283:	269.0	273.4
см	4.4	3.5	7.5	11.5	7.0	6.1	6.3	7.9	7.5
	2	P 1	5	→10	(→)	3 P		7	6

лучевая скор. 5-ой тени
о.п. = +4.0
фп = −23.2
= 0.125
= 0.739
0.864
л.с. = −39.5 км/с.

№12 8 II 46 г. Зарисовка 4^h5 6^02

с утра пасмурно

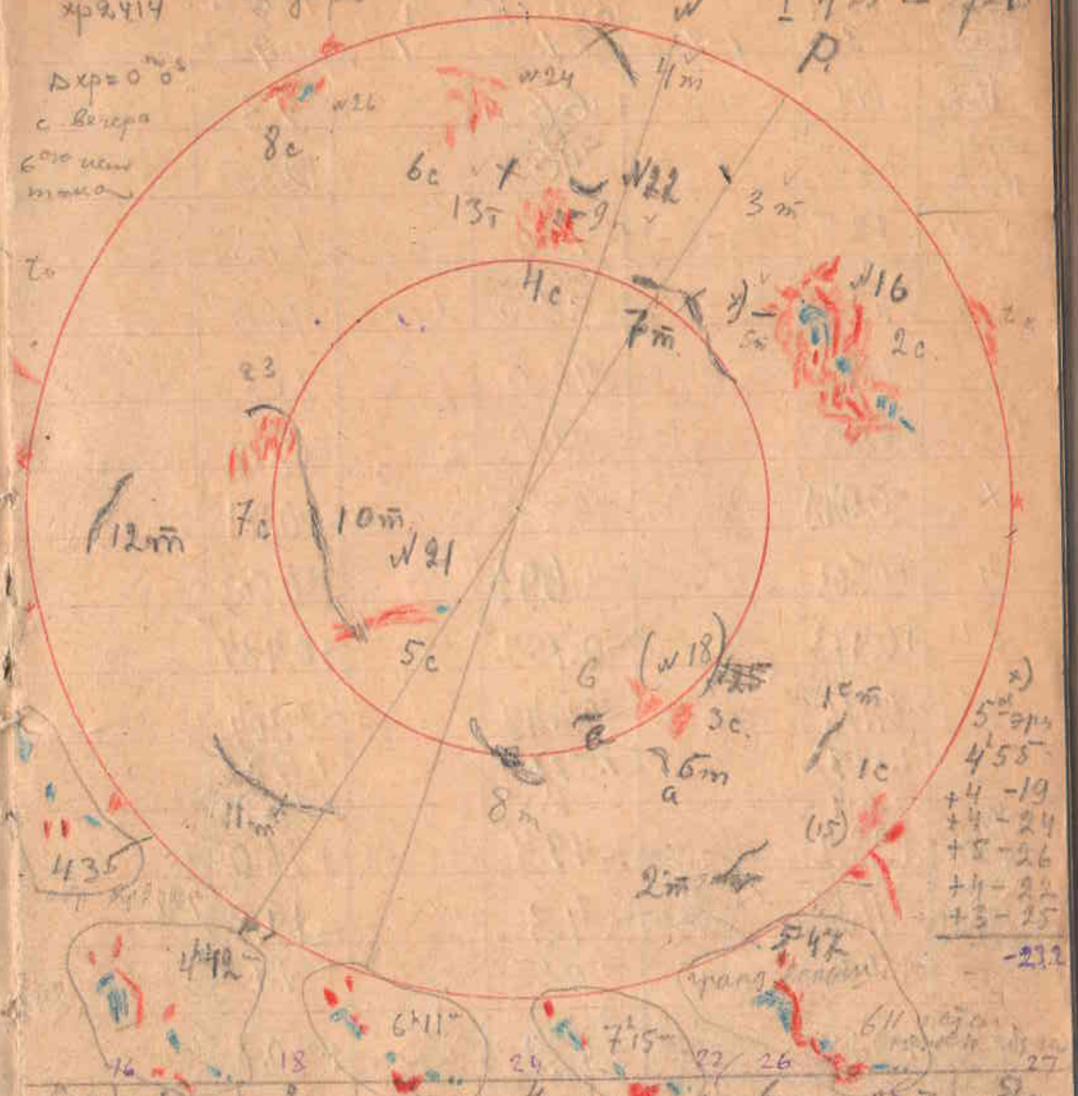
хр 2414

I 4^25 — 7^21

P

Δхр = 0^m 0^s

с вечера 6ого [illegible]



№ гр	1с	2	3	4	5	6	7	8с
шт	21	3	2	2	1	1	2	1
φ	−15	+26	−16	+14	−25	+26	−15	+18
l	345	294	290	260	257	231	233	192
см	2.1	6.0	6.3	8.6	8.9	10.8	12.6	13.5
№ гр	на мест (15)	№16	на мест. №18	№22	№21	№24	№23	№26

N	9 m	10 m	11 m	12 m	13 m
Время	707-21		602-615	1	707-21
Пункт	3	1-2	2	1	4
t_0	111		66		93
T	235		196		235
$t_к$	125		136		143
t_0	55.5		33.0		46.5
t	117.5		98.0		117.5
$t/2$	58.8		49.0		58.8
x	-0.049		-0.235		-0.181
y	+0.503		-0.693		+0.503
x'	+0.473		-0.759		+0.439
y'	-0.176		-0.049		-0.304
	1.135		1.537		1.113
	-6.4		-6.5		-6.2
φ_0	+28.2		-49.4		+26.0
λ_0	-11.5		-4.3		-19.8
	+0.6		-0.5		+1.1
φ	+21.8	—	-55.9	—	+20.8
λ	-10.9		-4.8		-18.7
L	263.4		264.0		263.4
l	252.5	—	259.2	—	244.7
c	9.1		8.6		9.7

3а 8/II.46

8.II

	Весь диск	центр зона
а. флак	3.5	1.5
III флак	3.0	2.5

9.II

	Весь диск	центр зона
а. флак	3.5	3.0
III. флак	2.5	0.5

$t_0 = 0.28$

$P = -14.9$

$B = -6.5$

$\operatorname{tg} P = -0.2571$

$\cos P = -0.9664$

$T/2 = 68.0$

Вр	6 16 – 24	25 – 31	35 – 41	42 – 45	50 – 55	55 – 0	02 – 16	02 – 14	17 21	21 – 25
№	1 m	2 m	3 m	4 m	5 m a	5 m b	6 m	из	7 m	8 m
ним	1-2	1-2	2	1	1-2	2	1		2-3	1
q_0	242.6	83.0	167.0	39.0	194.0	179.0	146.0	205.4	149.0	37.0
q	249.4	191.6	240.0	241.6	262.0	249.0	244.0	244.0	197.0	100.0
$q_{\text{ш}}$	9.0	110	73.0	201.0	68.0	70.0	99.0	39	48.0	64.0
t_0	121.3	41.5	83.5	19.5	97.0	89.5	73.0	102.7	74.5	18.5
t	124.7	95.8	120.0	120.8	131.0	124.5	122.0	122.0	98.5	50.0
$\frac{t}{2}$	62.4	47.9	60.0	60.4	65.5	62.2	61.0	61.0	49.2	25.0
x	+0.8675	-0.0943	+0.3461	-0.6024	+0.4639	+0.4021	+0.1767	+0.6141	+0.3726	-0.0957
y	-0.3942	-0.7089	-0.4682	-0.4568	+0.2634	+0.4010	+0.4392	+0.4392	+0.6892	+0.9298
x'	-0.1513	-0.7087	-0.3603	-0.5996	+0.3765	+0.4929	+0.4703	+0.5858	+0.7631	+0.8716
y'	+0.9408	+0.0961	+0.4574	-0.4606	+0.3779	+0.2821	+0.0545	+0.4765	+0.1775	-0.3377
	-2°.0	-6°.5	-5°.7	-5°.4	-6°.1	-6°.2	-6°.6	-5°.3	-6°.4	-4°.8
φ_0	-8°.7	-45°.1	-21°.1	-36°.8	+22°.1	+29°.5	+28°.1	+35°.9	+49°.7	+60°.6
λ_0	+72°.1	+7°.8	+29°.4	-35°.1	+24°.1	+18°.9	+3°.5	+36°.0	+15°.9	-43°.6
	+1°.0	+0°.9	+1°.2	-2°.8	-1°.1	-1°.2	-0°.2	-2°.8	-2°.1	+8°.1
φ	-10°.7	-51°.6	-26°.8	-42°.2	+16°.0	+23°.3	+21°.5	+30°.6	+43°.3	+55°.8
λ	+73°.1	+8°.7	+30°.6	-37°.9	+23°.0	+17°.7	+3°.3	+33°.2	+13°.8	-35°.5
γ	250°.8	250°.7	250°.6	250°.6	250°.5	250°.4	250.3	250.3	250.2	250.2
e	323.9	259.4	281.2	212.7	273.5	268.1	253.6	283.5	264.0	214.7
СМ	3.7	8.6	6.9	12.2	7.5	7.9	9.0	6.8	8.3	12.0

№13 9.II 46г

Зарисовка 518 – 612

518 – 736

$\varphi = -15°.3$

$B = -6°.6$

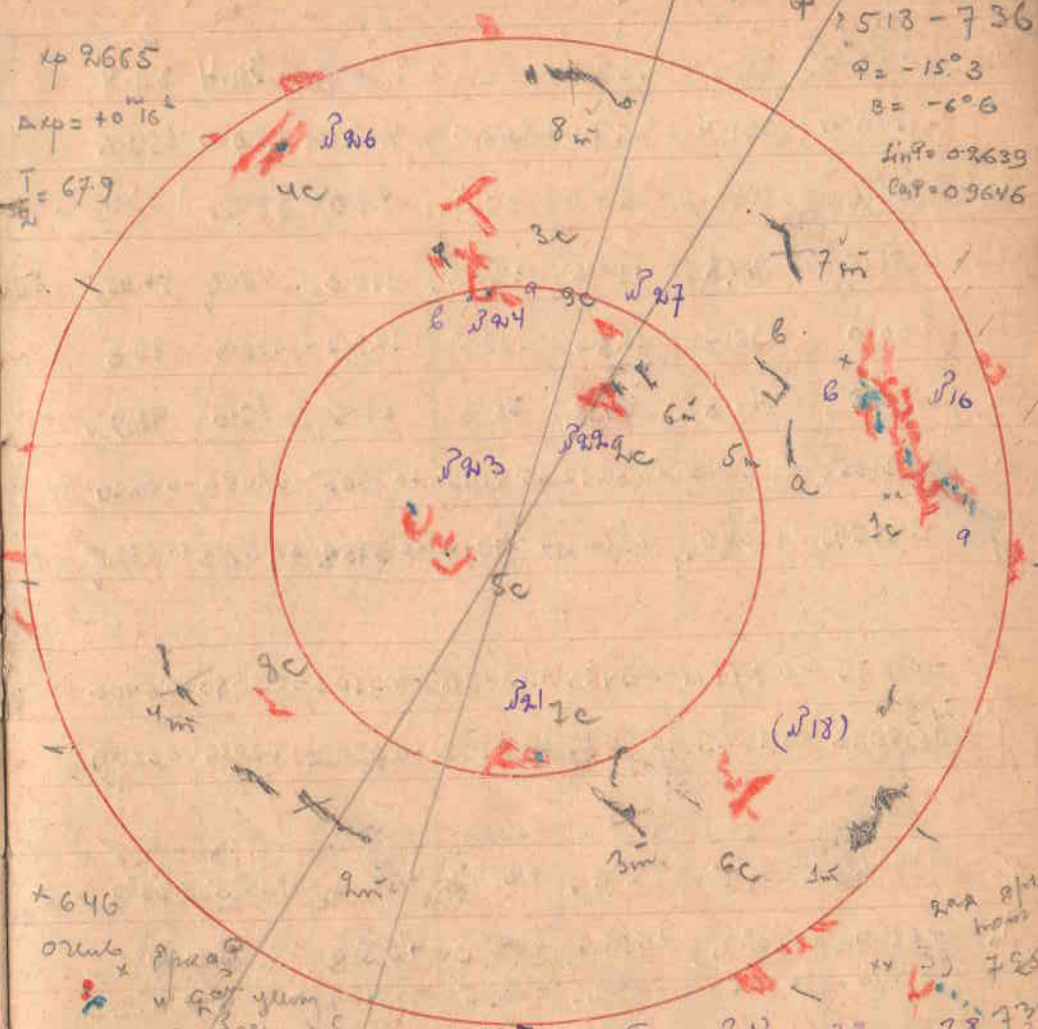
$\sin\varphi = 0.2639$

$\cos\varphi = 0.9646$

$\varkappa p$ 2665

$\Delta\varkappa p = +0^m 16^s$

$\frac{T}{2} = 67.9$



×646

очень ярка и ... уши слабее ... 7.01 конец

	18	24	26	27	25	20	22	28	29
№ фл	1c	2c	3c	4c	5c	6c	7c	8c	9c
ним	3	2	1	2	2	1-2	1-2	1	1-2
φ	+26	+14	+27	+18	-18	-15	-24	-35	+25
l	298	250	230	190	236	290	261	235	245
СМ	5.7	9.3	10.8	13.9	10.4	6.3	8.5	10.5	9.7
№ гр	№16	№22	№24	№26	№23	(№18)	№21	(№25)	№27

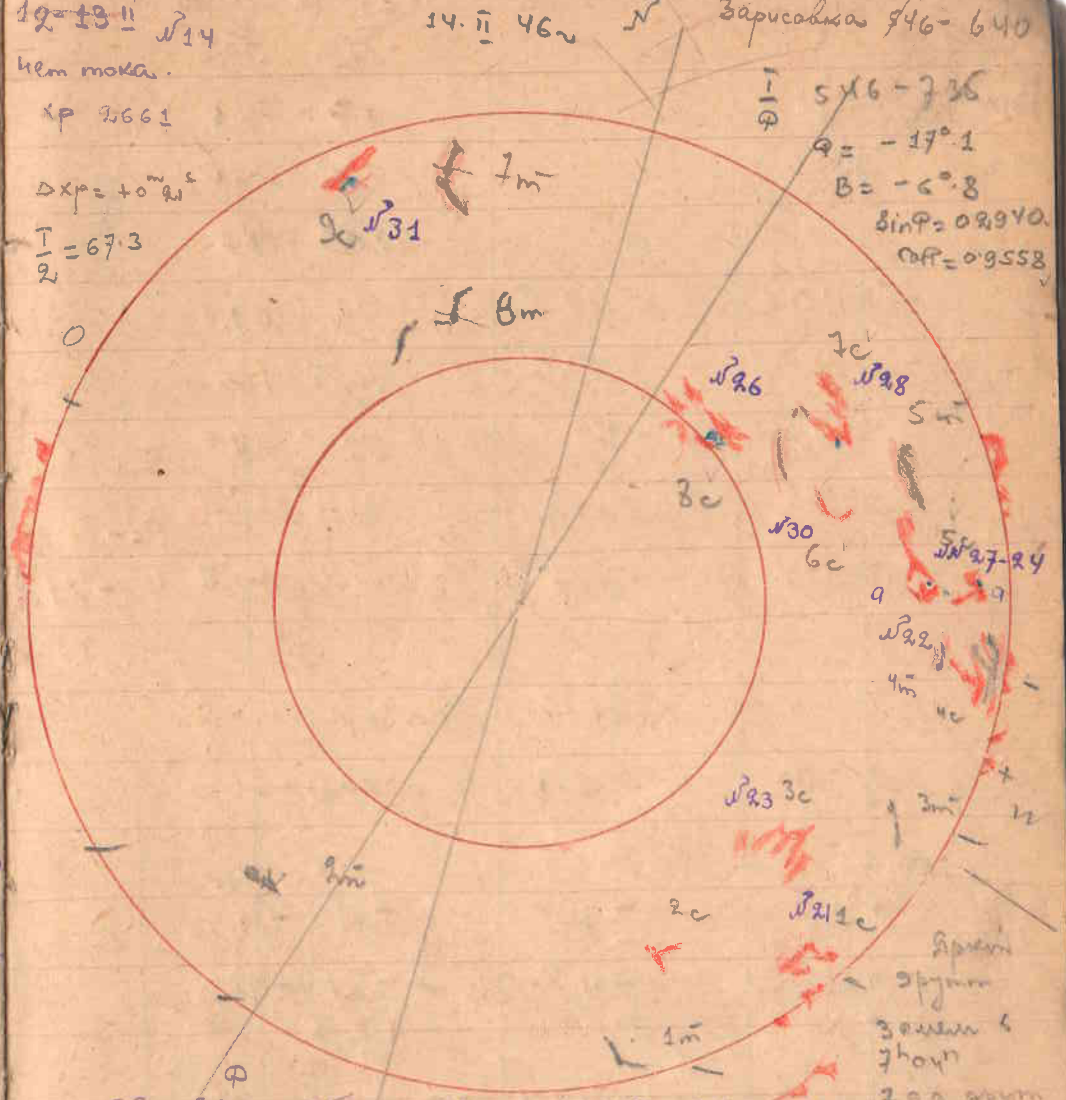
Вр	6 41 – 47	47 – 53	54 – 00	06 – 12	12 – 18	19 – 24	25 – 28
N	1m	2m	3m	4m	5m	6m	7m
инт	2	1–2	1	1	1–2	3	3
q_0	103.0	250.6	239.0	254.0	230.0	20.4	34.4
q	120.0	191.4	257.0	267.0	247.4	220.0	167.6
q_k	17.6	142.0	18.0	15.0	21.0	132	135.0
t_0	51.5	25.3	119.5	127.0	115.0	45.2	17.2
t	60.0	95.7	128.5	133.5	123.7	110.0	83.8
$\frac{t}{2}$	30.0	47.8	64.2	66.8	61.8	55.0	41.9
x	+0.3195	−0.3343	+0.8217	+0.8945	+0.7905	−0.1456	−0.3670
y	−0.8952	−0.7040	−0.3002	+0.1214	+0.3958	+0.5763	+0.7825
x'	−0.7617	−0.7712	−0.0453	+0.3790	+0.6107	+0.5080	+0.6400
y'	+0.5686	−0.1125	+0.8737	+0.8193	+0.6392	−0.3086	−0.5809
	−3°.2	−6°.7	−3°.3	−3°.2	−4°.0	−6°.3	−4°.5
φ_0	−49°.6	−50°.5	−2°.6	+22°.3	+37°.6	+30°.5	+39°.8
λ_0	+61°.4	−10°.2	+61°.0	+62°.3	+53°.8	−21°.0	−49°.1
	+70.0	−10.5	+00.2	−2°.5	−4°.2	+10.5	+4°.2
φ	−52°.8	−57°.2	−5°.9	+19°.1	+33°.6	+24°.2	+35°.3
λ	+68°.4	−11°.7	+61°.2	+59°.8	+49°.6	−19°.5	−44°.9
L	184°.7	184.7	184.6	184.5	184.4	184.4	184.3
ℓ	253°.1	173°.0	245°.8	244°.3	234°.0	164°.9	139°.4
см	9.1	15.2	9.6	9.8	10.5	15.8	17.7

12–13 II №14
нет тока.
хр 2661
Δхр = +0m21s
$\frac{T}{2} = 67.3$

14. II 46 г.

Зарисовка 746–640

$\frac{T}{\Phi}$ 5x6–736
P = −17°.1
B = −6°.8
sinP = 0.2940
cosP = 0.9558



	22	28	25	24	26–29	30	31	27	32
№ фл	1c	2c	3c	4c	5c	6c	7c	8c	9c
инт	1–2	1	1	2–3	2–3	1	1–2	1	3
φ	−25	−35°	−16	+15	+25	+22	+33	+20	+27
ℓ	260	240	237	251	240	217	202	191	122
см	9.6	10.1	10.3	9.2	10.1	11.8	12.6	13.8	19.0
№пр	№21	нет места №25	№23	№22	№№24–27	№30	№28	№26	№31

W

Время

t₀

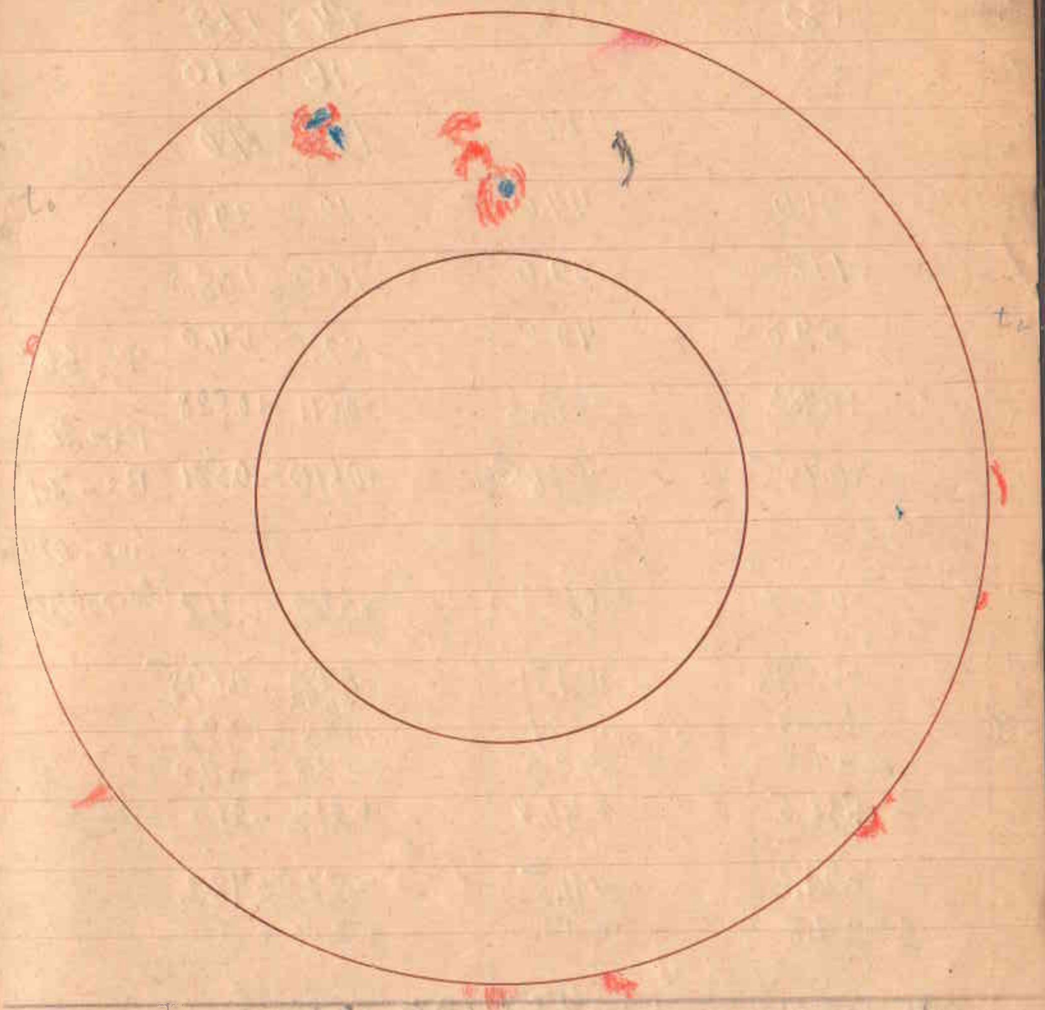
T

Lх

17/II 15 значительная облачность
16 нет тока

хр № 2665
2ч + 29"

820-815



№ гр	1 г	2 г	3 m	4 m	5 m	6 m	3 cbl
		610-16		617-27		645-59	630-640
кол.	5	1	1	1	1	5	5
q_0		182		88		24	178
q		236		198		210	216
q_2		53		117		188	40
t_0		91.0		44.0		12.0	89.0
t		118.0		99.0		105.0	108.0
$t/2$		59.0		49.5		52.5	54.0
x		+0.483		-0.083		-0.611	+0.528
y		+0.455		-0.665		+0.610	-0.581
x'		+0.594		-0.653		+0.362	-0.363
y'		+0.296		+0.151		-0.783	+0.695
sec φ		1.244		1.321		1.073	1.073
Δφ		- 6.5		- 6.9		- 3.8	- 4.8
$φ_0$		+36.5		- 40.8		+21.2	-21.3
$λ_0$		+21.6		+11.5		- 57.2	+48.2
Δλ		- 1.8		+ 1.1		+ 2.4	+ 2.0
φ	+19	+30.0	-25	-47.7	+22	+17.4	-26.1
λ		+19.8		+12.6		-54.8	+50.2
L		53.3		53.2		52.9	53.1
ℓ	105.0	73.1	67.0	65.8	350	358.1	103.3
cm	20.3	22.8	23.2	23.3	~~1.5~~	28.4	20.5
	(♉)	(♉)	(♉)	(♉)	(♊)	(♊)	

T/2 = 66.3
P = - 20.2
B = - 7.1
sin p: 0.345
cos p: 0.938

Луч. скор. № 6 т.
НП
= +6.0° -36.0°
~~= -30.0~~
-6 = 0190
-36 = -1.265
= -1.075
л.с. = - 49.1 к/с

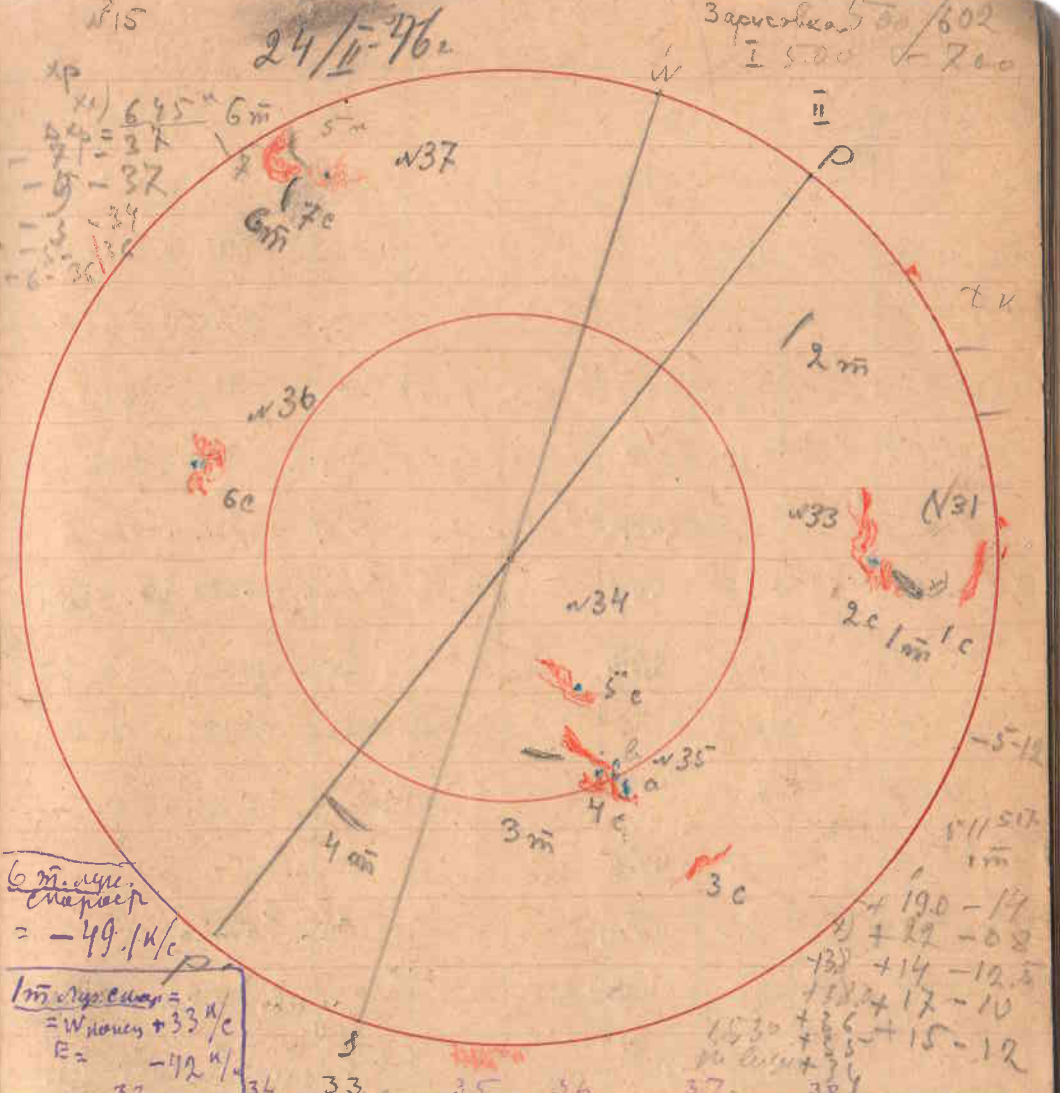
Луч. скор. № 1 т. конца
НП. W E
+17.4 +36.2 -11.3
+0550 +1.970 -0.360
+0.980 -0.910
+33 км/сек -42 км/сек

№ 15 24/II-46 г.

Зарисовка I 5.00 / 602 II 7.00

6 т. луч. скорост = - 49.1 к/с

1 т. луч. скор. = W конец + 33 к/с E = -42 к/с



+ 19.0 - 14
+ 22 - 0.8
+ 14 - 12.5
+ 17 - 10
+ 15 - 12

	32	34	33	35	36	37	38
№ гр	1 с	2 с	3 с	4 с	5 с	6 с	7 с
кол.	2	2	2	3	1	2	1-2
φ	+24	+22	-26	-21	-14	-18	+22
ℓ	121	95	103	80	65	12	350
cm	19.1	21.1	20.5	22.2	23.3	27.4	~~1.4~~ 1.1
№ гр	№ 31	№ 33	—	№ 35	№ 34	№ 36	№ 37

Вр. нач. 2.0 0.5
Вр. конц. 2.5 1.0

№	1m	2m	3m	4m	5m
время	8h34-37		8h41-49	8h51-5[illegible]	
инт	1	2	3	1	<1
t_0	103.4		111.8	20.4	
t	118.8		118.4	103.8	
$t/2$	59.4		59.2	51.9	
x	+0.665		+.190	-.476 ✓	
y	+.440		-.446	-.621	
x'	+.645		-.351	-.749	
y'	+.469		+.334	-.229	
sec	1.309		1.068	[illegible]	
A	4.5		2.5		
φ_0	+40.2		-20.6	-4°.7 / -48°.5	
$\Delta\varphi$	-5.7		-6.7	-20°.2 ✓	
λ_0	+37.9		+20.9	-2°.8	
$\Delta\lambda$	-3.8		+1.9	-	
φ	+34.5	-29	-27.3	-53°.2	
λ	+34.1		+22.8	-23°.0	
L	38.8		38.7	38.7	
l	72.9	75	61.5	15°.7	
[illegible]	22.3	22.6	23.6		
	♉	♉	(♊)	(♊)	

$P = -20.5$

$B_0 = -7.2$

$\sin p = -0.350$

$\cos p = +0.937$

$T/2 = 66^t.2$

$1/T = 0.01511$

Оценки за 26.II

Весь диск		2.3
Св. флок	2.5	1.5
Тм. флок.	1.0	0.5

Обработка лучевой скорости протуберанца (начальный конец) за 26.II

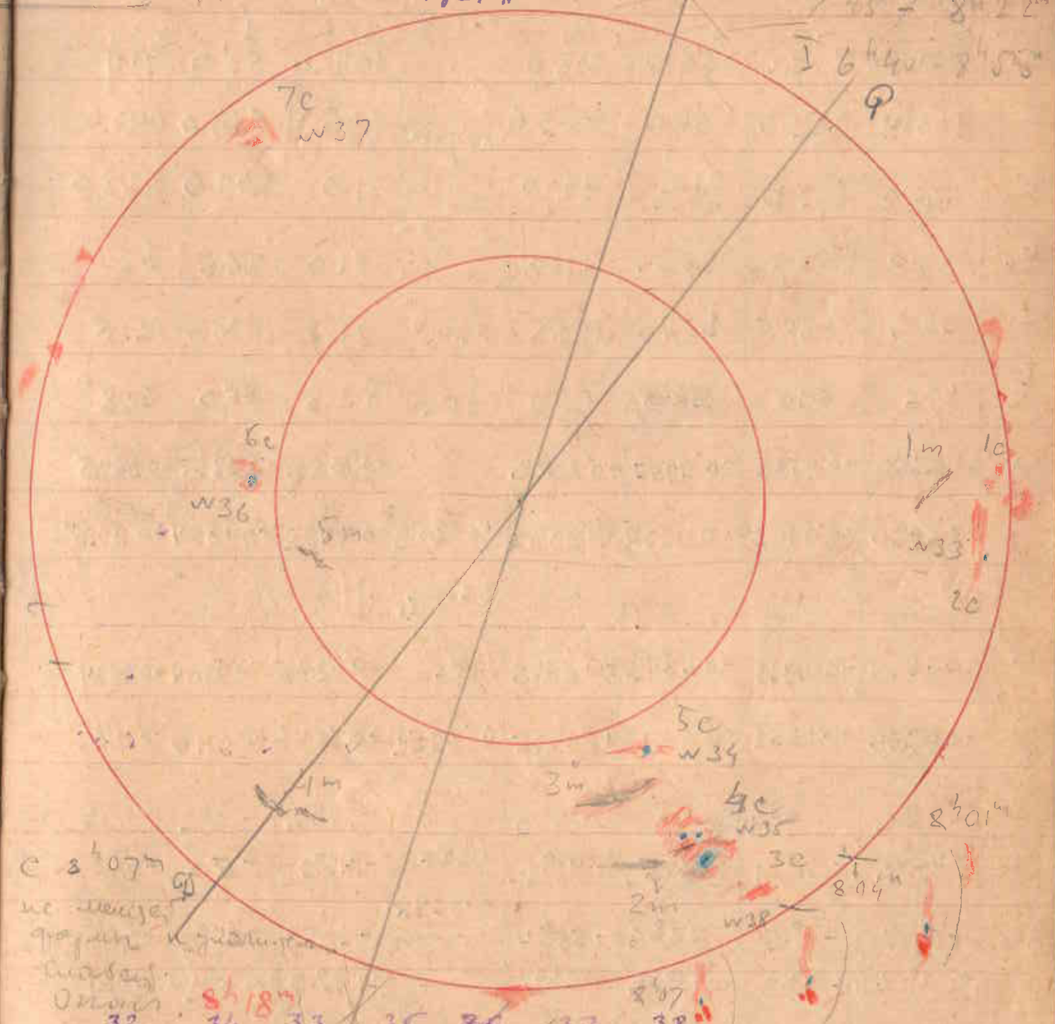
прот.	к.п.
+10°	+35°
+9	+37°
+8°	+36
	+34
+9°.0	+35°.5

$+0'.286 - 1.244 = -0.958 = -44$ км/сек.

$+0'.286 \quad +1.244$

25 II 1946 №16 $\Delta x_y = -0^s.5$ x_y 2414

30 | 6^h44^m – 7^h00^m
7^h45^m – 8^h22^m
I 6^h40^m – 8^h55^m

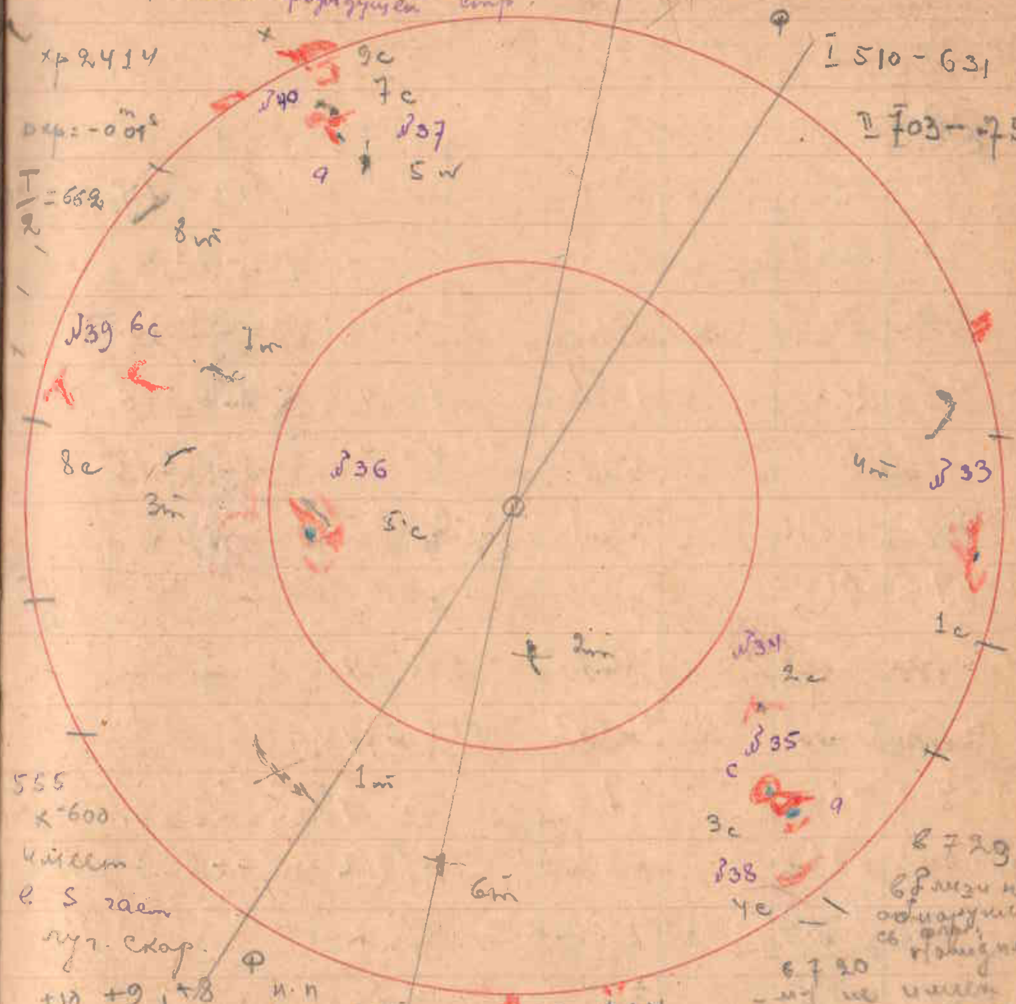


№	32 1c	34 2c	33 3c	35 4c	36 5c	37 6c	38 7c		
инт	1	3	3	3	1	1	2	2.5	4.2
φ	+24 ✓	+21 ✓	-26 ✓	-20 ✓	-13 ✓	-20 ✓	+22 ✓	Светл. д.л. 2.5	0.0
l	121 ✓	95 ✓	102 ✓	83 ✓	66 ✓	11 ✓	349 ✓	Темн. д.л. 1.0	0.0
[illegible]	19.1	~~20.~~9	20.6	22.0	23.3	27.5	1.1		
[illegible]	нет между 34	33	38	35	34	36	37		

Вр	608-12	13-18	13-23	24-30	4h	13-17	33-39	40-48	
№	1m	2m	3m	4m	5m	6m	7m	8m	
шт	<1	1	1	2	1-2	1-2	1	1 2	
q_0	64.0	127.4	53.0	230.4		102.0	53.0	7.4	
q	190.4	251.0	264.0	243.6	отсут-	175.4	260.0	243.0	
q_k	126.0	123.0	212	12.0	-ствует	71.0	209.0	238.0	
t_0	32.0	63.7	26.5	115.2	на за- рисовке	51.0	26.5	37	
t	95.2	125.5	132.0	121.8	5m	87.7	130.0	121.5	
$t/2$	47.6	62.8	66.0	60.9	7c	43.8	65.0	60.8	
x	-0.2356	+0.0136	-0.5967	+0.8202		-0.1088	-0.5816	-0.8625	
y	-0.6950	-0.3165	-0.0774	+0.3921	$\varphi_2 = -20°8$	-0.7498	+0.1894	+0.3955	
					$B = -7°2$	Ⅱ п/б полож			
x'	-0.7334	-0.2911	-0.2843	+0.6578	$\sin\varphi$ =	-0.7395	-0.0294	+0.0634	
y'	+0.0266	+0.1251	-0.5303	+0.6275	0.3551	+0.1646	-0.6110	-0.9467	
	-7°2	-7°1	-6°0	-4°0		-7°0	-5°7	-2°3	
φ_0	-47°2	-16°9	-16°5	+41°1	$\cos\varphi$ =	-47°7	-1°7	+3°6	
λ_0	+2°2	+7°5	-33°6	+56°4	0.9348	+13°9	-37°7	-71°6	
	+0°3	+0°3	-1°2	-5°2		+2°0	-0°1	+0°4	
φ	-54°2	-24°0	-22°5	+37°1	+19	-54°7	-7°4	+1°3	9c
λ	+2°5	+7°8	-34°8	+51°2		+15°9	-37°8	-71°2	+2
L	27.0	26.9	26.9	26.8		26.4	26.2	26.1	318
l	29°5	34°7	352°1	78°0	1.0	42°3	348°4	314°9	3.5
см	26.1 ♊	25.7 (♋)	28.9 (♋)	22.4 ♉	28.2 ♊	25.1 (♊)	1.2 (♋)	3.7 (♋)	40

Оценки и луч. скор. протуб.
№17 см. на предыдущей стр.
26.II 46г

Зарисовка $5^h 10^m$ 605



+10 +9, +8 (34)
и.п. +39, +35 (35), +37 (133) +36, +34 (37)
39
6 7 20 - лу не имеет
38 луч. скор.

№фл	1c	2c	3c	4c	5c	6c	7c	8c
шт	1	<1	3-4	1-2	1	1	1	2
φ	+21	-12	-20	-25	-18	-14:	+22	-21
l	97	65	83	100	10	333:	352	310
см	20.9	23.4	22.0	20.7	27.5	2.4	28.9	4.1
№гр	33	34	35	38	36	—	37	39
	2	4	3	1	5	7	6	8

Вр								
№								
шт								
d_0								
q								
q_w								
t_0								
t								
$\frac{t}{2}$								
x								
y								
x'								
y'								
φ_0								
λ_0								
φ								
λ								
L_0								
ℓ								
см								

~~[illegible]~~ 28.II 46г

с утра пасмурно

$5^h 18^m$.535 облака

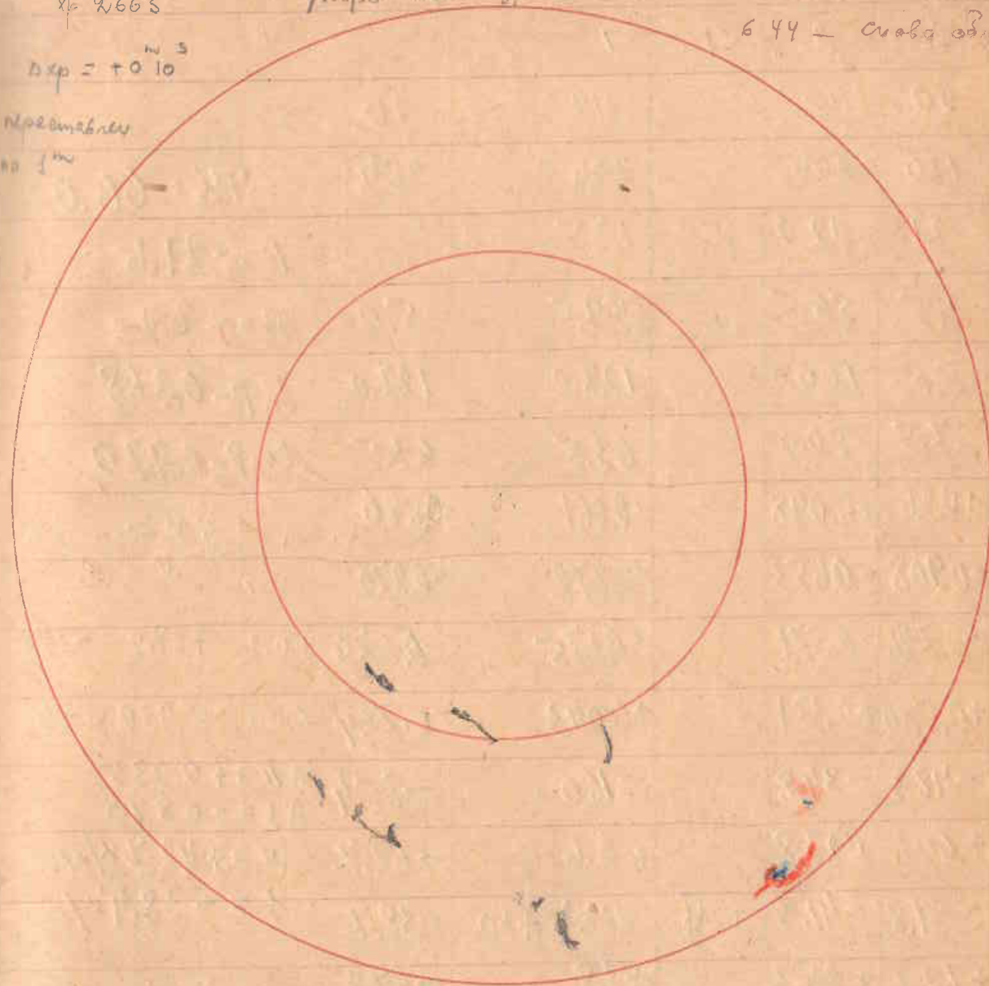
6 44 — снова облака

хр 2665

Δхр = $+0^m 10^s$

переставлен

на 1^m



№ фот							
шт							
φ							
ℓ							
см							
Вр							

N	1	2	3	4	5	8c
D	612685	628632		633639	→ руп	633639
	2	2	<1	1	5	
t_0	90	113		119		10
t	110	200		254		254
t_k	21	92.0		135		
t_0	45	56.5		59.5		5.0
t	55	100.0		127.0		127.0
t/2	27.5	50.0		63.5		63.5
x	+0.265	+0.098		-0.061		-0.886
y	-0.908	-0.653		-0.272		-0.272
x'	-0.746	-0.571		-0.275		-0.579
y'	+0.580	+0.331		+0.043		-0.724
φ_0	-48.3	-34.8		-16.0		-35.4
λ_0	+60.6	+23.8		+2.6		-62.7
φ	-51.8	-41.3	+25	-23.2	+30	-38.7
λ	+67.6	+25.7		+2.8		-67.2
L	347.4	347.3		347.2		347.2
l	55.0	13.0	349	350.0	290	280.0
с.м.	24.1	27.3	1.1	1.1	5.6	6.4
	♊)	♊)	♊	♋	(♋)	
$\Delta\varphi$	-3.5	-6.5		-7.2		-3.3
$\Delta\lambda$	+7.0	+1.9		+0.2		-4.5
$\sec\varphi_0$	1.503	1.218		1.040		1.227

T/2 = 66.0

P = -21.6

B = -7.2

sin P - 0.368

cos P - 0.930

	5ое тени	
оп.	w	s
+0.2	+28.2	-26.0
+0.005	+0.930	-0.840

AW = +0.935

AS = -0.840

w = +42.7 к/ем

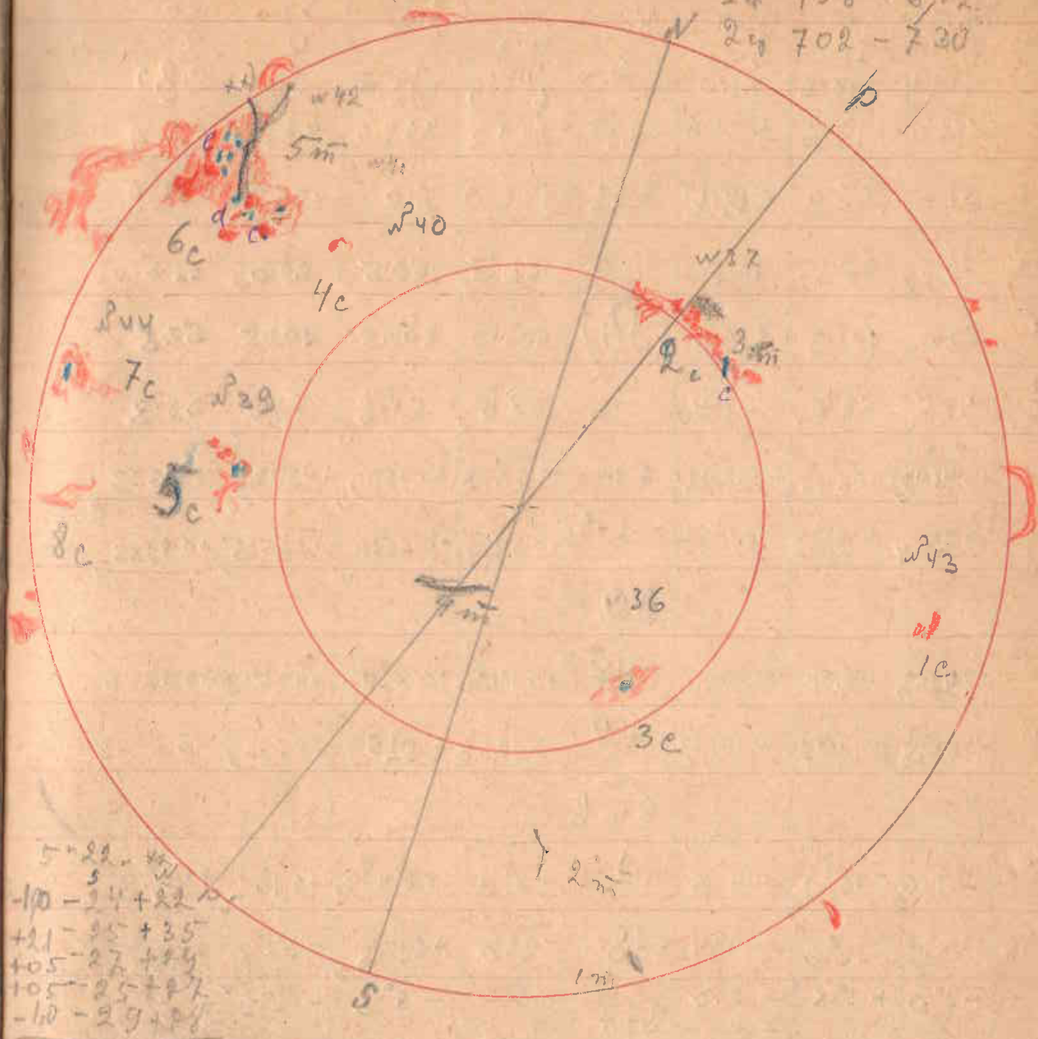
s = -38.4 м/с

N 18 1/III-46

Запис 458 604

$I_ч$ 458 - 642

$2_ч$ 702 - 720



5 - 22

-1.0 - 24 + 22

+2.1 - 25 + 35

+0.5 - 27 + 24

+0.5 - 25 + 27

-1.0 - 29 + 28

+0.25 26.0 +28.2

	42	38	37	41	40	45	44	43			
N	1c	2c	3c	4c	5c	6c	7c	8c		Вещ	Ч.З.
	3	2-3	1	4	2-3	3-4	2	<1			
φ	+20	+22	-19	+24	-22	+25	-19	-39	сев.ф.	3.5	1.5
l	41	350	10	320	312	290	273	280	тень.р.	1.5	0.5
с.м.	25.5	1.1	27.5	3.3	3.9	5.6	6.9	6.4			
	43	37	36	40	39	42	44	—			

Вр	612-19	19-27	30-41		42-48	50-56	50-56	01-04	
ν	1m	2m	3m	4m	6m a	7m	8m	9m	10
инт	1-2	<1	2-3	2	1-2	1	4	2	4
σ_0	147.4	190.6	21.0		133.0	213.0	58.0	23.0	
σ	186.0	214.6	233.6	-21°	260.0	219.0	219.0	115.0	
σ_k	36.0	25.0	211.4	311	126.0	6.0	159.0	96.0	
t_0	73.7	95.3	10.5	4.0	66.5	106.5	29.0	11.5	
t	93.0	107.3	116.8	(Ω)	130.0	109.5	109.5	57.5	
$\frac{t}{2}$	46.5	53.6	58.4		65.0	54.8	54.8	28.8	
x	+0.4140	+0.6347	-0.7291	5m	+0.0228	+0.7869	-0.3927	-0.2633	
y	-0.7064	-0.5783	-0.4581	1-2	+0.1460	+0.5516	+0.5516	+0.8988	
				+30					
x'	-0.4942	-0.2914	-0.7022	345	+0.1436	+0.8107	+0.3593	+0.7296	
y'	+0.6528	+0.8077	-0.4983	1.4	-0.0348	+0.5159	-0.5739	-0.5873	
				6m b					
φ_0	-4°.7 / -29°.6	-3°.8 / -16°.9	-5°.2 / -44°.6	1	-7°.2 / +8°.3	-3°.4 / +54°.2	-5°.7 / +21°.1	-3°.7 / +46°.8	
λ_0	+48°.7 / +3°.0	+57°.6 / +1°.8	-44°.4 / -5°.0	+18 / 278	-2°.0 / +0.0	+61°.8 / -8°.8	-37°.9 / +1°.7	-59°.2 / +6°.6	
φ	-34°.3	-20°.7	-49°.8	6.5	+1°.1	+50°.8	+15°.4	+43°.1	+33
λ	+51°.7	+59°.4	-49°.4		-2°.0	+53°.0	-36°.2	-52°.6	
Ω	294.7	294.7	294.5		294.5	294.4	294.4	294.3	
e	346.4	354.1	245°.1		292.5	347.4	258.2	241°.7	290
СМ	1.3	28.8	9.0	4.5	5.4	1.3	8.0	9.3	5.6
	(2)	(1)	(m)	5	(Ω)	(Ω)	(Ω)	(m)	(Ω)

№19 5-III 46г

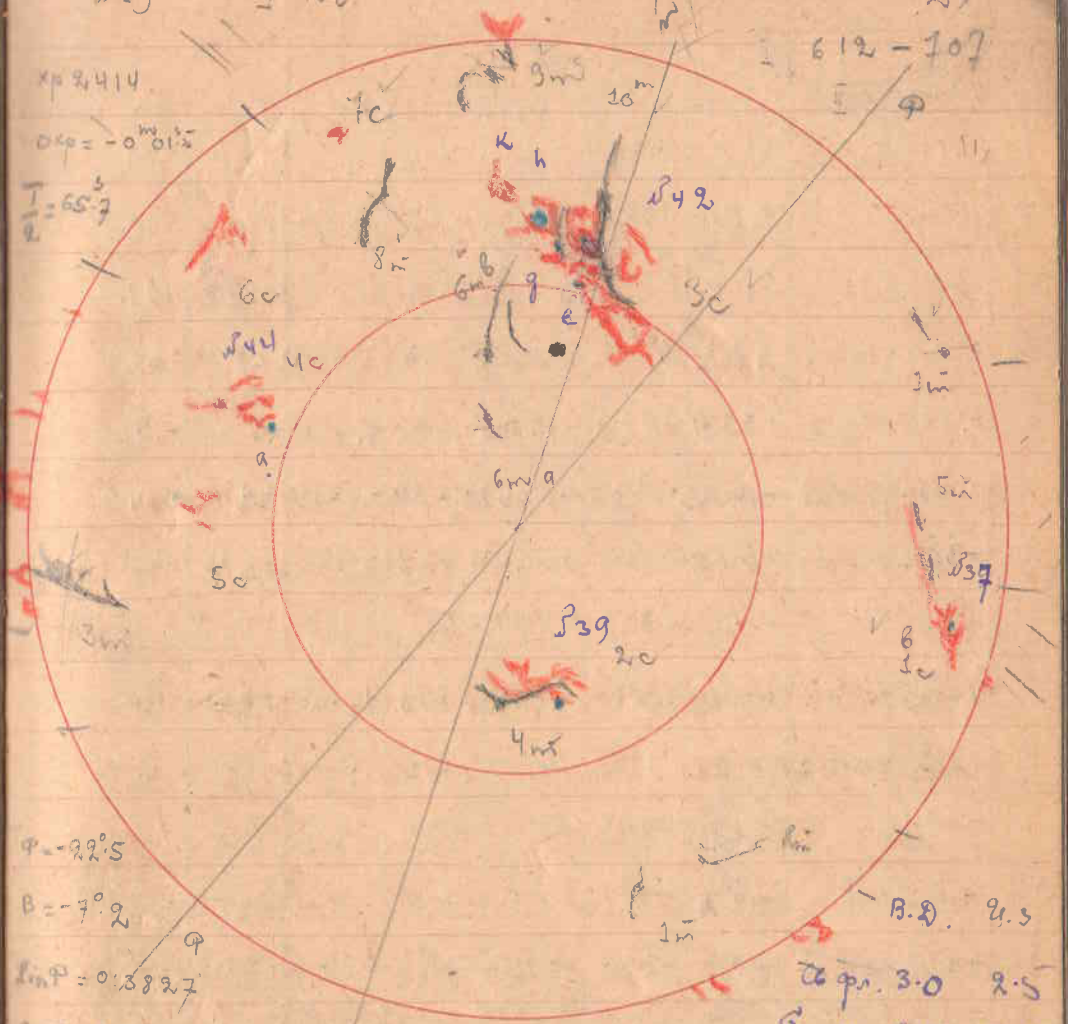
Зарисовка 4h55m - 602

612 - 107

хр 2414

Окр = -0m01s.5

$\frac{T}{2}$ = 65s.7



Ф = -22°.5

В = -7°.2

Sin Ф = 0.3827

Cos Ф = 0.9239

В.Д. 4.3

Ф фл. 3.0 2.5

Ф фл. 3.0 2.0

38	40	45	44	43	47	46
1c	2c	3c	4c	5c	6c	7c
2-3	1-2	2-3	2-3	<1	2	2
+23°	-19°	+26°	-19°	-39	-15° / -5	+19
357	311°	288	265°	280	235° / 240°	245
1.5	4.0	5.8	7.5	6.4	9.8	9.0
№37	№39	№42	№44			

№	1m	2m	3m	4m	5m	6m	7m	4c	6c
инф	1	1	3	3	3	2	2		
время	6ʰ34-43		6ʰ52-58	6ʰ52-58	6 58-7 06	6ʰ34-43	7ʰ06-11	7 12-20	7 12-20
t_0	74.8		81.2	44.8	26.0	14.8	76.4	18.8	11.0
t	114.8		115.4	115.4	58.0	114.8	88.4	130.2	130.2
t_k	42.2		35.0	70.2	38.0	15.8	12.0	112.2	121.0
$t/2$	57.4		57.7	57.7	28.0	57.4	44.2	65.1	65.1
x	+.265✓		+.358	-.197	-.030	-.649	+.491	-.744	-.863
y	-.484✓		+.477	+.477	+.904	-.484	-.739	+.126	+.126
x'	-344		+578	+364	+821	-697	-491	-171	-217
y'	+431		+146	-366	-377	-411	+738	-735	-845
sec b	1.065✓		1.224	1.070	1.757	1.388	1.148	1.015	1.024
A	3.3		1.3	2.9	4.8	4.2	6.1	5.5	6.2
φ_0	-20.1✓		+35.2	+21.3	+55.3	-43.9	-29.4	-9.8	-12.5
$\Delta\varphi$	-6.5✓		-7.1	-6.7	-5.5	-6.0	-3.9	-4.9	-3.6
λ_0	+27.3✓		+10.3	-23.1	-41.5	-34.8	+57.9	-48.2	-59.9
$\Delta\lambda$	+1.2✓		-0.9	+1.1	+6.8	-4.0	+3.4	-1.0	-1.4
φ	+26.6✓	+15	+28.1	+14.6	+49.8	-49.9	-33.3	-14.7	-16.1
λ	+28.5✓		+9°.4	-22.0	-34°.7	-38°.8	+61°.3	-49°.2	-61°.3
L	281.3		281.2	281.2	281.1	281.3	281.1	281.0	281.0
l	309.8	294	290°.6	259.2	246.4	242°.5	342°.4	231°.8	219°.7
	4.1	5.3	6.0	8.5	9.0	9.1	9.8	10.3	11.1
	(2♍	♌3	♋4	♌	6	♍7	♌1		

№20 6 III 1946 ху 2414 Δ = -1ˢ

Зар. 4ʰ42ᵐ - 5ʰ25

I 5ʰ42ᵐ - 7ʰ30

II

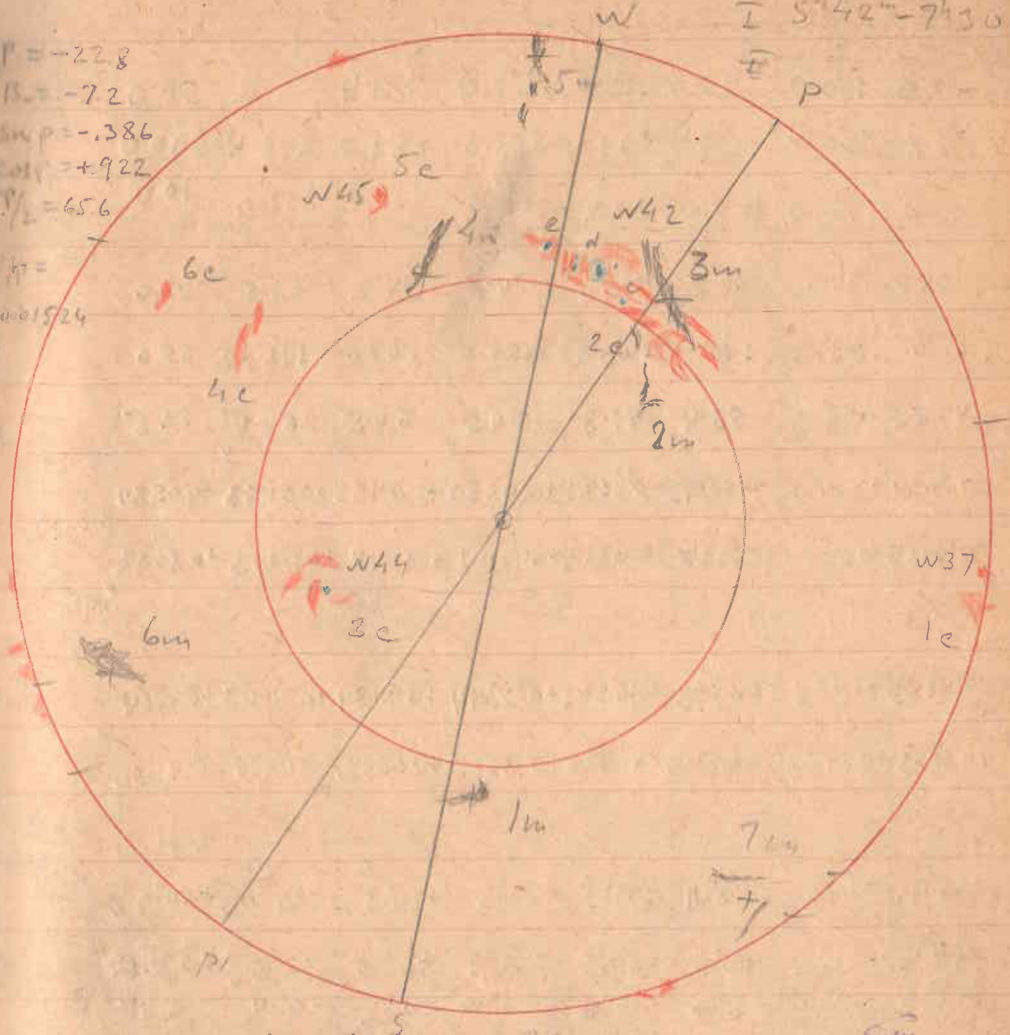
P = -22.8

B₀ = -7.2

sin P = -.386

cos P = +.922

T/2 = 65.6



	38	45	44	47	46	48	
№	1c	2c	3c	4c	5c	6c	
инф	3	3	3	2	1	1	
φ	+24	+28	-20	-15	+18	-16	
l	355	283	266	232	244	220	
	28.7	6.2	7.4	10.3	9.1	11.1	
	37	42	44	— на месте появ. 14.III	45	на месте — гр. №46	гр. №53

6.III

св.	3.0	1.5
	2.5	1.0

Вр	48-54	00-06	06-10	18-22	25-43	25-45	46 — 50	55-09	
w	1m	2m	3m	4m	5m	6m	7m	8m	9m
нин	2-3	2	2	2	1	1-2	4	4	2-3
φ_0	162.8	150.0	45.0	14.6	189.0	148.4	125.0	58.0	
φ	178.0	210.0	221.4	247.4	258.0	258.0	237.4	190.0	
φ_k	16.0	62.0	179.0	232.0	69.0	111.0	116.0	70.0	
t_0	81.4	75.0	22.5	7.3	94.5	74.2	62.5	29.0	70.0
t	89.0	105.0	110.7	123.7	129.0	129.0	118.7	65.0	130
$\frac{t}{2}$	44.5	52.5	55.4	61.8	64.5	64.5	59.4	32.5	
x	+0.5634	+0.3435	-0.5023	-0.8321	+0.4580	+0.1481	+0.0473	-0.0584	$\varphi = -23°.0$
y	-0.7337	-0.5980	-0.5335	-0.3313	+0.1744	+0.1744	+0.4213	+0.8682	$B = -7°.2$
	II) предпахом								$\sin\varphi =$
x'	-0.4553	-0.4163	-0.6873	-0.6301	+0.3394	+0.2184	+0.4063	+0.7764	0.3907
y'	+0.8033	+0.5498	-0.2540	-0.6365	+0.3535	+0.0682	-0.1211	-0.3930	$\cos\varphi =$
	-3°.0	-5°.8	-6°.8	-4°.2	-6°.7	-7°.2	-7°.2	-5°.6	0.9205
φ_0	-27°.1	-24°.6	-43°.4	-39°.1	+19°.8	+12°.6	+24°.0	+50°.9	
λ_0	+64°.8	+37°.2	-20°.5	-55°.0	+22°.1	+4°.0	-7°.6	-38°.6	
	+3°.3	+2°.0	-2°.3	-4°.9	-1°.0	-0°.2	+0°.4	+5°.5	
φ	-30°.1	-30°.4	-50°.2	-43°.3	+13°.1	+5°.4	+16°.8	+45°.3	+32
x	+68°.1	+39°.2	-22°.8	-59°.9	+21°.1	+3°.8	-7°.2	-33°.1	
z	268.6	268.5	268°.4	268°.3	268°.2	268°.2	268°.1	268°.0	
ℓ	336°.7	307°.7	245°.6	208°.4	289°.3	272°.0	260°.9	234°.9	285
см	2.1	4.3	9.0	11.8	5.7	7.0	7.8	9.8	6.0
	)	♍)	♍	(♍	☊	☊			

№21 7.III 46г

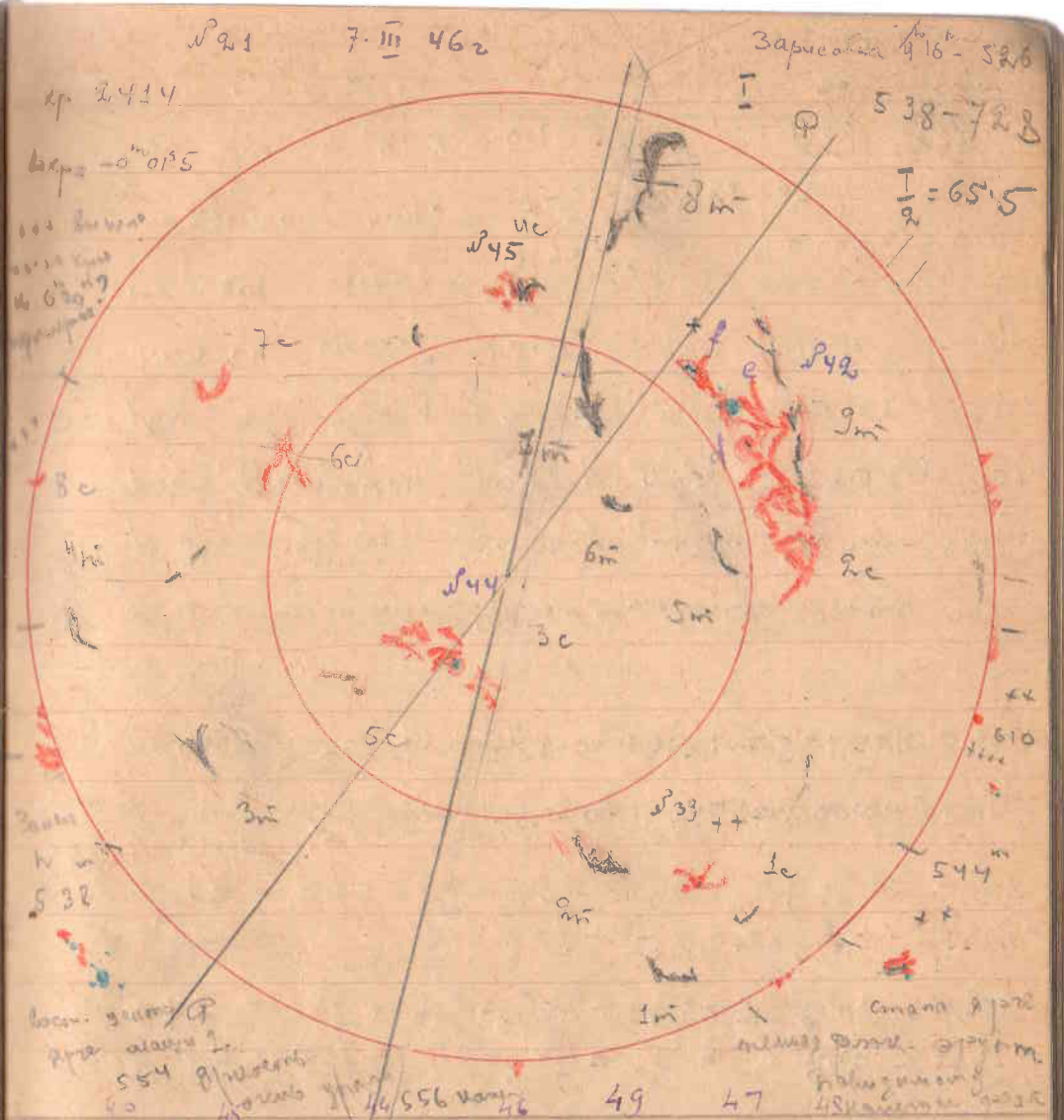
Зарисовка 9h16m - 526

кр 2414

I

538-728

$\frac{T}{2} = 65.5$



№ пл	1c	2c	3c	4c	5c	6c	7c
нин	1-2	2-3	2	1	<1	2	1
φ	-19°	+25	-18	+19	-28	-18	-14
ℓ	315	285	266	245	259	236	218
см	3.7	6.0	7.4	9.0	8.0	9.7	11.1
№ пр	39	42	44	45	—	на месте появившейся 14.III гр 53	46

630-35 4	700-716 6c	711-14 xxx прот мыши 1, 2	714-726! 7c
2.0	60.4		33.0
257.0	263.0	261.0	260.0
220.0	203.0		226.0
1.0	30.2	130.5	16.5
131.5	131.5	130.5	130.0
65.8	65.8	65.2	65.0
-0.9893	-0.5435	+0.9954	-0.7405
0.0000	0.0000	+0.0958	+0.1232
-0.3865	-0.2123	+0.4771	-0.1759
-0.3107	-0.5003	+0.8789	-0.7297
-1°.1	-6°.2	0°.0	-4°.3
-22°.7	-12°.3	+28°.5	-10°.1
-80°.9	-30°.8	+90°.0	-47°.8
-3°.0	-0°.8	(-3°.9)	-1°.8
-23°.8	-18°.5	+28°.5	-14°.4
-83°.9	-31°.6	+90° (+86.1)	-49°.6
268.2	267.9	267.9 357.9	267°.8
184.3	236.3	(354.0)	218°.2
13.6	9.7	28.8	11.1

$\frac{T}{2} = 65.5$

xx в 6^h12 конец

в 6^h09 еще видно очень маленькая яркая точка, форма из-за [illegible] наложение тени [illegible] флоккула

xxx 6.30

[illegible]

6.55 [illegible]

[illegible] В дальнейшем [illegible]

xxx Очень [illegible] группы [illegible] 7h [illegible] мыши 1, 2

	1c	4e	5e	8c	9m 3	10m 1	11m 1	12m 1	13m 1
	705-10	538-42	545-550	720-25	507-16	517-25	517-25	517-25	527-35
t^o	183	82	51.0	93	60	52	26	3	4.0
t	208	262	262	257	218	245	245	245	229
t_k	25				160	188	221		225
t^o	91.5	41.0	25.5	46.5	30.0	26.0	13.0	1.5	2.0
t	104	131.0	131.0	128.5	109	122.5	122.5	122.5	114.5
$t/2$	52.0	65.5	65.5	64.2	54.5	61.2	61.2	61.2	57.2
x	+0.603	-0.374	-0.611	-0.270	-0.374	-0.537	-0.736	-0.911	-0.843
y	-0.609	-0.010	+0.010	-0.198	-0.555	-0.357	-0.357	-0.357	-0.486
x'	-0.322	-0.156	-0.232	-0.288	-0.657	-0.540	-0.618	-0.687	-0.779
y'	+0.794	-0.340	-0.566	-0.170	-0.125	-0.355	-0.535	-0.696	-0.584
$\sec \varphi_0$	1.056	1.012	1.028	1.044	1.327	1.188	1.273	1.376	1.596
$\Delta\varphi$	-3.9	-6.7	-5.9	-7.0	-7.0	-6.4	-5.3	-2.0	-2.5
φ_0	-18.8	-9.0	-13.4	-16.7	-41.1	-32.7	-38.2	-43.4	-51.2
λ_0	+57.0	-20.1	-35.5	-10.2	-9.5	-24.9	-42.9	-73.3	-68.8
$\Delta\lambda$	+2.0	-0.4	-1.0	-0.4	-1.0	-1.9	-3.8	-6.5	-8.2
φ	-22.7	-15.7	-19.3	-23.7	-48.1	-39.1	-43.5	-45.4	-53.7
λ	+59.0	-20.5	-36.5	-10.6	-10.5	-26.8	-46.7	-79.8	-77.0
L	254.7	255.5	255.4	254.6	255.8	255.7	255.7	255.7	255.6
l	313.7	235.0	218.9	244.0	245.3	228.9	209.0	175.9	178.6
с.м.	3.8	9.8	11.0	9.1	9.0	10.3	11.8	14.3	14.1

	1 m	2 m	3 m	4 m	5 m	6 m	7 m	8 m
Время	6⁰⁰-15	6⁵⁵-20	6³⁰ 6³⁵	5⁵⁰-6⁰⁰	6⁰⁰-05	5⁵⁰-6⁰⁰	6²⁵-31	6⁰⁵ 6¹⁰
инт	3	3	3-4	1	4	2	2	1
t_0	223	185	86	196	163	175	127	121
t	255	220	144	262	253	262	231	253
t_R	32	34	62	66	95	95 66	103	
t_0	111.5	92.5	43.0	98.0	81.5	87.5	63.5	60.5
t	127.5	110.0	72.0	131.0	127.5	131.0	115.5	126.5
$t/2$	63.8	55.0	36.0	65.5	63.8	65.5	57.8	63.2
x	+0.728	+0.573	+0.107	+0.496	+0.270	+0.336	+0.076	-0.041
y	+0.226	+0.543	+0.835	+0.010	+0.226	+0.010	+0.469	+0.262
x'	+0.495	+0.796	+0.809	+0.204	+0.314	+0.141	+0.461	+0.225
y'	+0.580	+0.478	-0.231	+0.452	+0.159	+0.305	-0.115	+0.141
Sec %	1.151	1.654	1701	1022	1053	1010	1127	1035
$\Delta\varphi$	-5.4	-4.4	-6.5	-6.4	-7.0	-6.8	-7.1	-7.1
φ_c	+29.7	+52.8	+54.0	+11.8	+18.3	+8.1	+27.5	+13°.0
λ_0	+41.9	+52.2	-23.1	+27.5	+9.6	+18.0	-7.4	-8.3
$\Delta\lambda$	-2.6	-7.1	+3.6	-0.6	-0.4	-0.4	+0.4	+0.3
A								
φ	+24.3	+48.4	+47.5	+5.4	+11.3	+1.3	+20.4	+5°.9
λ	+39.3	+45.1	-19.7	+26.9	+9.2	+17.6	-7.0	-8.0
α	255.2	255.2	255.0	255.4	255.3	255.4	255.1	255.3
β	294.5	300.3	235.3	282.3	264.5	273.0	248.1	247.3
	5.3	4.8	9.8	6.2	7.6	6.9	8.8	
	♋		♌	(Ω)	Ω		(♍)	(♎)

№ 22 8/III-46.

Зарисовка 407 4:3

I ср. 407 - 635

II ср. 704 - 730

B.D. 4.3

6 р. 3.0 3.0

10 р. 2.5 2.0

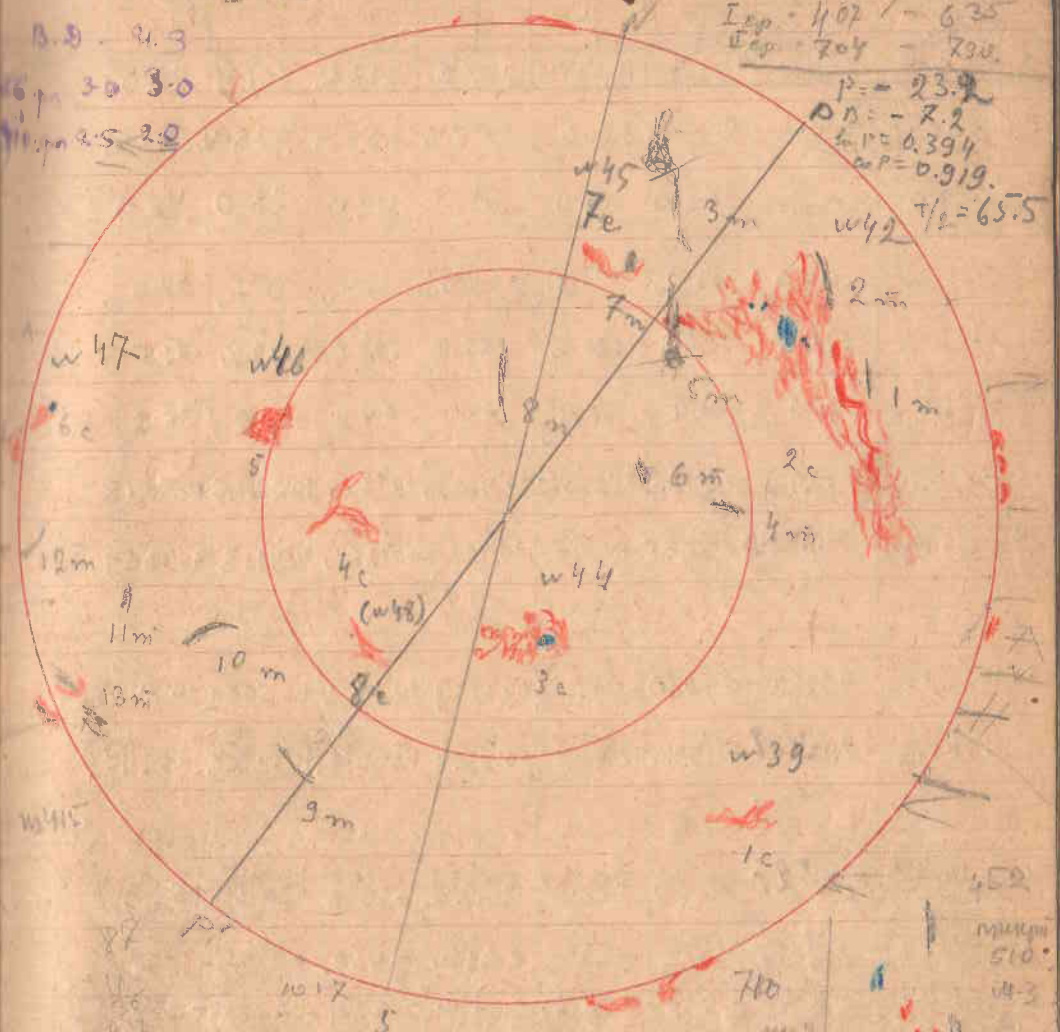
$P = -23.2$

$D = -7.2$

$\sin P = 0.394$

$\cos P = 0.919$

$T/2 = 65.5$



	40	45	44	47	48	51	46	50
	1c	2c	3c	4c	5c	6c	7c	8
	1	2	2	2	2	2	<1	<1
φ	-23	+28	-19	-16	-19	-29	+28	-24
ℓ	314	280	264	235	219	177	245	244
	3.8	6.4	7.6	9.8	11.0	14.2	9.0	9.1
	39	42	44	на месте 163	46	47	№45	(48)

	440-47	47-52	52-56	712-20	21-28	32-37	38-43	44-50
	1m	2m	3m	4m a	4m b	5m	6m a	6m b
umm	2	1	3	4	4	3	3	3
φ_0	76.6	80.8	76.0	202.4	188.0	177.4	161.4	98.0
φ	206.4	231.0	241.4	261.0	255.6	259.0	238.4	143.0
φ_2	128.0	211.0	165.0	60.0	69.0	112.0	78.0	46.0 $\frac{T}{2}=65.4$
t_0	38.3	10.4	38.0	101.2	94.0	73.7	80.7	49.0
t	103.2	115.5	120.7	130.5	127.8	129.5	119.2	71.5
$\frac{t}{2}$	51.6	57.8	60.4	65.2	63.9	64.8	59.6	35.8
x	-0.2034	-0.7248	-0.3425	+0.5505	+0.4602	+0.1361	+0.3226	+0.2018
y	-0.6144	-0.4680	-0.3835	+0.0787	+0.2127	+0.1352	+0.4118	+0.8369
x'	-0.6447	-0.7173	-0.4880	+0.2908	+0.3779	+0.1781	+0.5061	+0.8482
y'	+0.0573	-0.4794	-0.1620	+0.4739	+0.3379	+0.0712	+0.1326	-0.1471
	-7°.2	-5°.3	-7°.1	-6°.3	-6°.7	-7°.2	-7°.1	-7°.0
φ_0	-40°.1	-45°.8	-29°.2	+16°.9	+22°.2	+10°.3	+30°.4	+58°.0
λ_0	+4°.3	-43°.5	-10°.7	+29°.7	+21°.4	+4°.2	+8°.8	-16°.1
	+0°.4	-5°.1	-0°.7	-1°.1	-1°.0	-0°.2	-1°.2	+3°.2
φ	-47°.3	-51°.1	-36°.3	+10°.6	+15°.5	+3°.1	+23°.3	+51°.0
λ	+4°.7	-48°.6	-11°.4	+28°.6	+20°.4	+4°.0	+7°.6	-12°.9
L	241°.8	241°.7	241°.7	241°.5	241.4	241°.3	241°.2	241.2
l	246°.5	193°.1	230°.3	270°.1	261°.8	245°.3	248°.2	228°.3
cm	8.9	13.0	10.1	7.1	7.8	9.0	8.7	10.3
	♍ 4	♎ 8	♎ 6	Виде … 12		♎ 5	3 … 7	

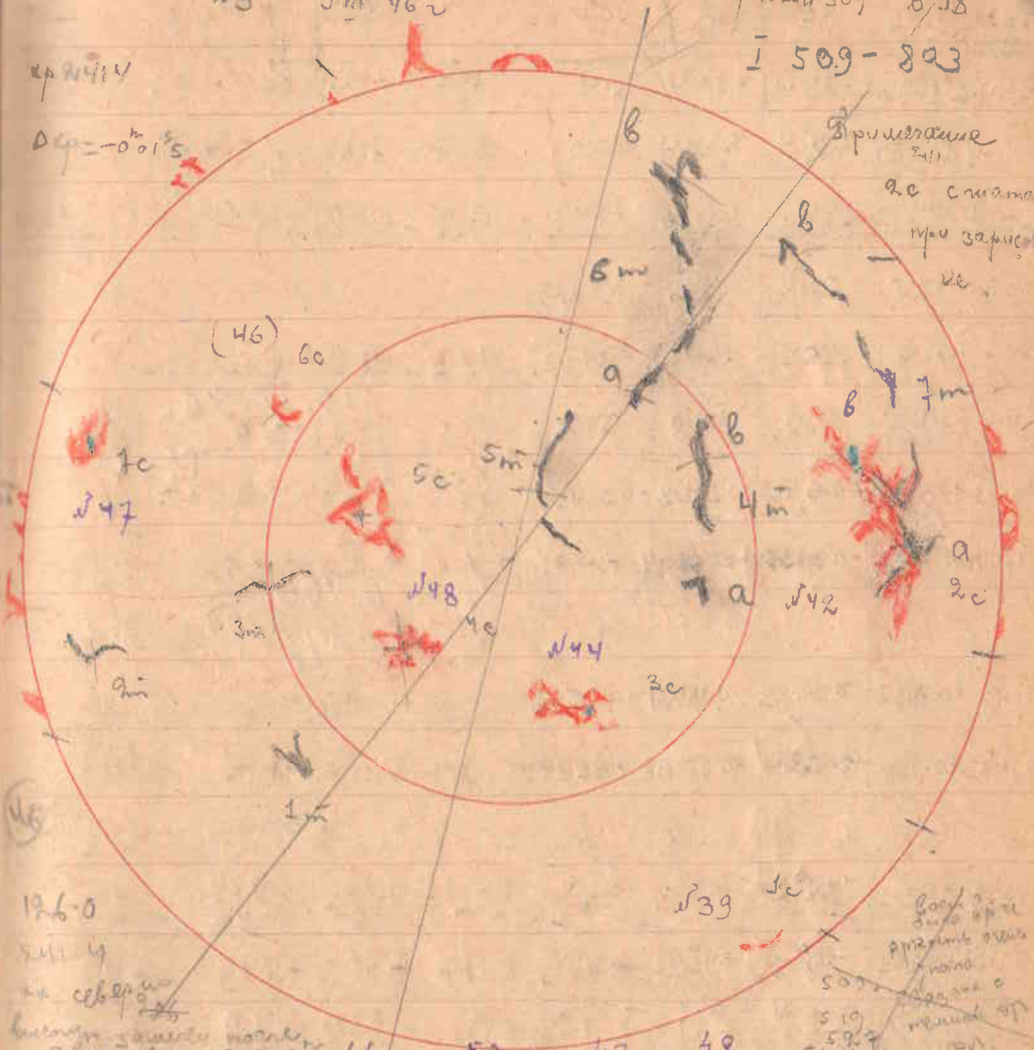
m 4.0 4.0

Вес фот 3.5 3.5

№23 9 III 46 г

Зарисовка 509 - 6,38

I 509 - 823



126.0
241.4
на север

	43	45	44	50	47	48	51	
№ гр	1c	2c	3c	4c	5c	6c	7c	
umm	1-2	23	24	2-3	-22	1	2	
φ	-22	+29	-20	-29	-18	-22	-28	
l	315	292	263	251	237	223	177	
cm	3.7	5.5	7.7	8.6	9.6	10.7	14.2	
№ пр	№39	№42	№44	№48	на месте (№53)	на месте		

7 m a 2	7 m b 2	65c-59 4c	701-04 5c	07-12 6c
244.6	147.0	115.4	110.4	78.4
257.4	178.0	241.4	259.4	260.0
14.0	31.0	126.0	152.0	184.0
122.3	73.5	57.7	55.2	39.2
122.7	89.0	120.7	129.7	130.0
64.4	44.5	60.4	64.8	65.0
+0.8853	+0.4434	-0.0413	-0.1468	-0.3945
+0.1744	+0.7328	-0.3835	-0.1359	~~-0.1100~~
+0.5116	+0.8487	-0.3683	-0.1892	-0.2577
+0.7433	+0.1160	+0.1144	-0.0810	-0.3184
-3°.6	-7°.0	-7°.2	-7°.2	-6°.8
+30°.8	+58°.1	-21°.6	-10°.5	-14°.9
+59°.9	+12°.7	+7°.1	-4°.7	-19°.2
-3°.0	-2°.6	+0°.4	-0°.1	-0°.6
+27°.2	+51°.1	-28°.8	-17°.7	-21°.7
+56°.9	+10°.1	+7°.5	-4°.8	-19°.8
241°.1	241°.1	241.6	241.6	241°.5
2[illegible]°.0	251°.2	249°.1	236°.8	221°.7
5.0	8.6	8.7	9.7	10.8

$\varphi = -23°.4$

$B = -7°.2$

$\sin\varphi = 0.3971$

$\cos\varphi = 0.9178$

10. III. 46.

$P = -23.6$ $T/2 = 65.4$

$D = -7.2$

$\sin P = 0.400$

$\cos P = 0.916$

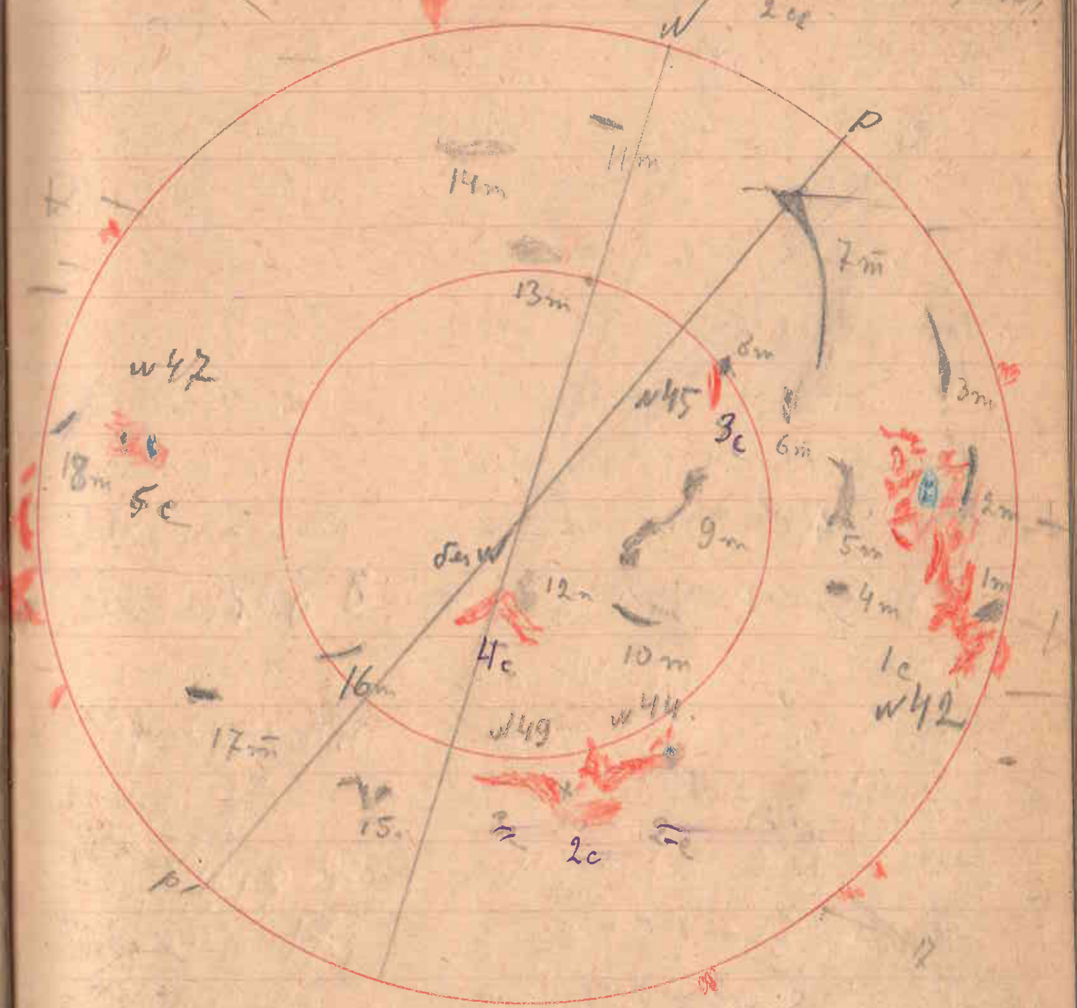
	10	11 m	12 m	13.14.	15 m	16 m	17 m	18 m	3 c
t_0	7^{46}_{54}	8^{10}_{815}	7^{20}_{738}	—	6^{47}_{54}	7^{15}_{20}	6^{55}_{700}	7^{40}_{45}	7^{02}_{709}
u_i	2	<1	1	<1 <1	3	1-2	2	1	
t_0	182	65	135		86	92	37	10	150
t	260	158	262		196	240	226	259	215
t_k	75	95	129		109			249	70
t_0	91.0	32.5	67.5		43.0	46.0	18.5	5.0	75.0
t	130.0	79.0	131.0		98.0	120	113.0	129.5	107.5
$t/2$	65.0	39.5	65.5		49.0	60.0	56.5	64.8	53.8
x	+398	-107	+0.031		-092	-215	-581	-914	+0.324
y	+110	+797	~~-0.005~~	0.000	-663	-397	-503	-134	-0.569
x'	+0.058 ~~+0.260~~	+0.687	~~+0.017~~	+0.012	-0.644	-0.450	-0.693	-0.489	-0.391
y'	+0.409 ~~+0.321~~	-0.417	~~+0.030~~	+0.028	+0.181	-0.038	-0.331	-0.783	+0.525
λ_B	1.036	1.376	1.0000		1.307	1.120	1.388	1.147	1.086
$\Delta\varphi$	-6.5	-5.9	-7.2	-7.2	-6.9	-7.2	-6.2	-3.1	-6.0
φ_0	+3°.3 ~~+13.1~~	+43.4	~~+0.4~~	+0.7	-40.1	-26.8	-43.9	-29.3	-23.0
λ_0	+24°.2 ~~+19.4~~	-35.0	~~-1.7~~	+1.6	+13.7	-2.4	-27.3	-63.9	-34.8
$\Delta\lambda$	-0.2	+3.7	±0.0		+1.4	-0.2	-3.0	-3.6	-1.6
φ	-3°.2 ~~+8.4~~	+37.5	-6.5	+20:: +28::	-47.0	-34.0	-50.1	-32.4	-29.0
λ	+24.0	-31.3	+1.6		+15.1	-2.6	-30.3	-67.5	+36.4
L	228.0	227.8	228.2		228.5	228.3	228.4	228.0	228.4
l	252.0	196.5	229.8	198:: 180::	243.6	225.7	198.1	160.5	162.8
C_m	~~8.9~~	12.7	10.3	12.6 14.0	9.1	10.5	12.6	15.4	7.5

№	1	2	3	4	5	6	7	8	9
вр.	8 20/25	8 35/40	8 25/30	7 57/58 04	7 50/52	8 35/40	8 20/25		7 50/52
ш	2	2	2	3	4	3	2-3	2	1-2
t_0	236	234	208	227	218	191	123.0		173
t	260	246	224	264	260	246	158		260
t_x	4	12	15	37	42	57	35		87
t_0	128.0	117.0	104.0	113.5	109.0	95.5	61.5		86.5
t	130.0	123.0	112.0	132.0	130.0	123.0	79.0		130.0
t/2	65.0	61.5	56.0	66.0	65.0	61.5	39.5		65.0
x	+964	+0.849	+734	+726	+673	+520	+337		+329
y	+110	+340	+516	+005	+110	+340	+797		+110
x'	+0.487	+0.651	+0.767	+0.295	+0.370	+0.519	+0.865		+0.233
y'	+0.839	+0.649	+0.466	+0.663	+0.572	+0.340	−0.010		+0.257
Δφ	1.146 −2.0	1.317 −3.9	1.559 −5.0	1.047 −5.1	1.076 −5.6	1.170 −6.5	1.924 −7.2		1.028 −6.9
$φ_0$	+29.2	+40.6	+50.1	+17.2	+21.7	+31.3	+59.9		+13.5
$λ_0$	+74.1	+57.7	+46.6	+44.0	+38.0	+23.4	−1.2		+15.3
Δλ	−3.8	−5.0	−6.1	−1.5	−1.6	−1.7	+0.3		−0.4
φ	+27.2	+36.7	+45.1	+12.1	+16.1	+24.8	+52.7	+19	+6.6
λ	+70.3	+52.7	+40.5	+42.5	+36.4	+21.7	−0.9		+14.9
L	227.7	227.5	227.6	227.9	227.9	227.5	227.8	♍ ♌	+10 227.9
ℓ	298.0	280.2	268.1	270.4	264.3	249.2	226.9	240	242.8
	5.0	6.4	7.3	7.1	7.6	8.7	10.4	9.4	9.2

1 2 4 ♋ — 3 5 ♌ — 6 12 — 8 10 — 8 9

w24 10/III-46

Пр. зарисо. -500 6 ...
1 ст = 500-840
2 ст



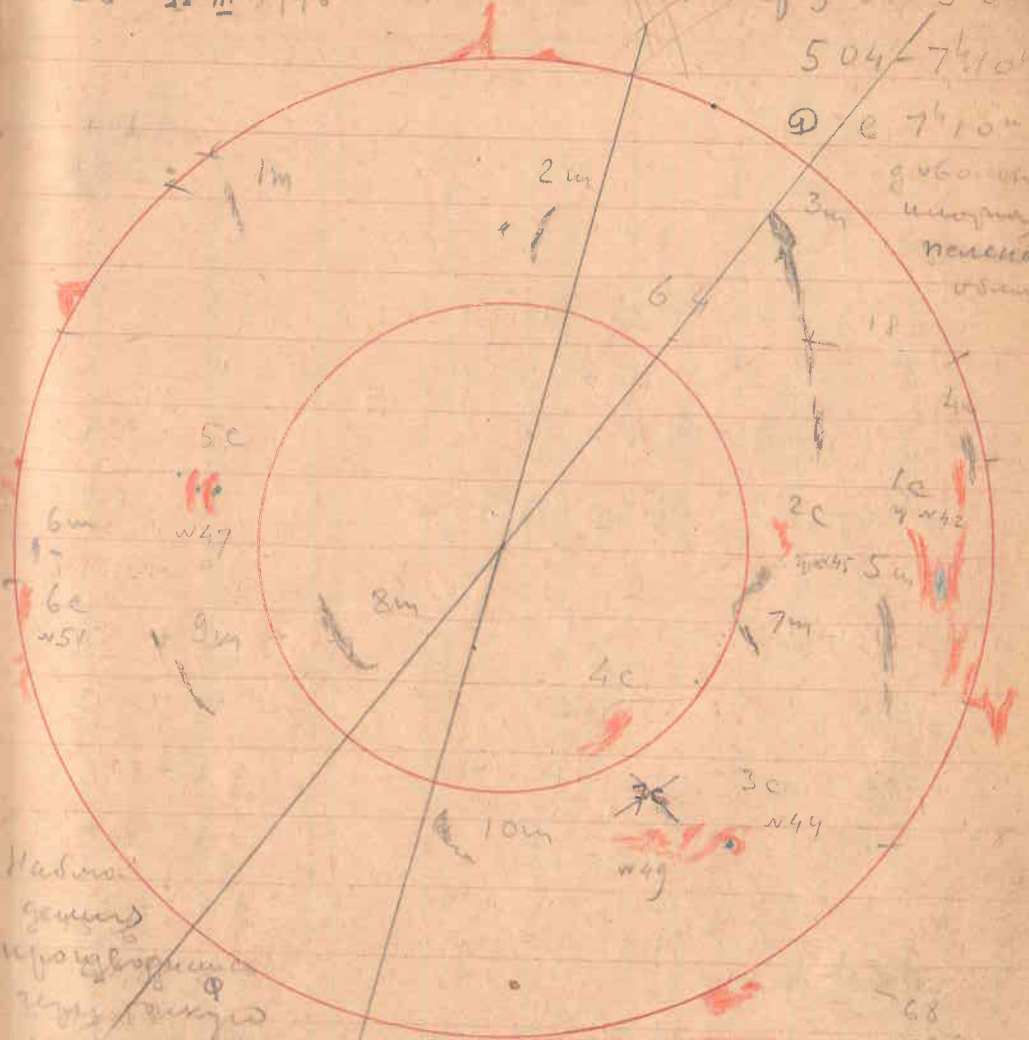
w	45 1c	44 2c	3c	46 3c	47 4c	51 5c			
ш	2	3	1	2	1	2		п.а.	4.3
φ	+26	−22	−29	+19	−17	−28		Обл. ср. 3.5	1.0
ℓ	280	262	265	240	237	176		тени ср. 3.5	3.5
	6.4	7.7	7.5	9.4	9.6	~~14.3~~ 14.3			
№	42	44	49	45	на месте появилась 47 (14.III) № 53				

№	1м	2м	3м	4м	5м	6м	7м	8м
инт	1	1	2	1	3	1	2	2
время	6 08-11	08-11	08-11	28-30	35-40		35-40	44-48
t_0	102	39.8	84.0	113.8	116.0		100.8	49.8
t	102.8	102.8	102.8	115.8	128.8		128.8	117.6
$t/2$	51.4	51.4	51.4	57.9	64.4		64.4	58.8
t_k	~~18.0~~ 93.2	64.0	~~93.2~~ 18.0		12.6		28.0	68.0
x	-.631	-.178	+.499	+.856	+.790		+.557	-.138
y	+.617	+.617	+.617	+.464	+.167		+.167	-.436
x'	+.310	+.493	+.767	.771	+.472		+.378	-.455
y'	-.826	-.412	+.208	+.596	+.655		+.443	+.050
$\sec\varphi_0$	1.052	1.087	1.559	1.569	1.135		1.080	1.412
φ_0	+18.1	+29.5	+50.1	+50.4	+28.2		+22.2	-27.1
$\Delta\varphi$	-3.5	-6.5	-6.8	-2.5	-4.8		-6.3	-7.2
φ	+14.6	+23.0	+43.3	+47.9	+23.4	-32	+15.9	-34.3
ΔA	6.2	3.2	2.4	6.7	5.4		3.5	0.5
λ_0	-60.3	-26.6	+18.9	+69.3	+48.0		+28.6	+4.0
$\Delta\lambda$	+2.0	+1.8	-2.8	-8.2	-2.8		-1.4	+0.2
λ	-58.3	-24.8	+16.1	+61.1	+45.2		+27.2	+4.2
L_0	215.7	215.7	215.7	215.5	215.5		215.5	215.4
ℓ	157.4	190.9	231°.8	276.8	260.9	143	242.7	219.6
см	15.7	13.1	~~12.5~~	6.6	7.8	16.8	9.2	11.0
	(♍ 9	8)	6)	1 ♋)	2 Ω)	♏ 10	3)	4 5)

№25 11 III 1946 ХО 2414 Δ = -15 3 ч 5h04 – 5h51m

5 04 – 7h10m

Ⓓ в 7h10m



Наблюдения производились через тонкую пелену облаков и в просветы между облаками

№	45	46	44	52	51	53	
	1	2	3	4	5	6	7
инт	3	2	2	2	2	3	1
φ	+28	+20	-29	-18	-29	-37	-28
ℓ	7.2	240	260	237	176	143	263
см	7.0	9.4	7.6	9.7	14.3	16.8	8.4
в ч №	42	45	44	—	47	51	49

№	9m	10m
инт	2	1
время	$6^h52.5$	7.00-05
t_0	20.4	45.4
t	106.6	85.2
$t/2$	53.3	42.6
t_k	87.0	49.0
x	-.504	+.043
y	-.578	-.758
x'	-.733	-.677
y'	-.227	+.345
$\sec\varphi_0$	1.365	1.359
φ_0	-47.1	-42.6
$\Delta\varphi$	-6.9	-6.3
φ	-54.0	-48.9
A	2.3	3.4
λ_0	-12.1	+28.0
$\Delta\lambda$	-2.5	+3.0
λ	-20.6	+31.0
L	215.3	215.2
ℓ	194.7	246.2
С.М.	12.9	8.9

11/III - прохождение:

$P = -23.8$

$B_0 = -7.2$

$\sin p = -0.404$ ✓

$\cos p = +0.915$ ✓

$T/2 = 65.3$

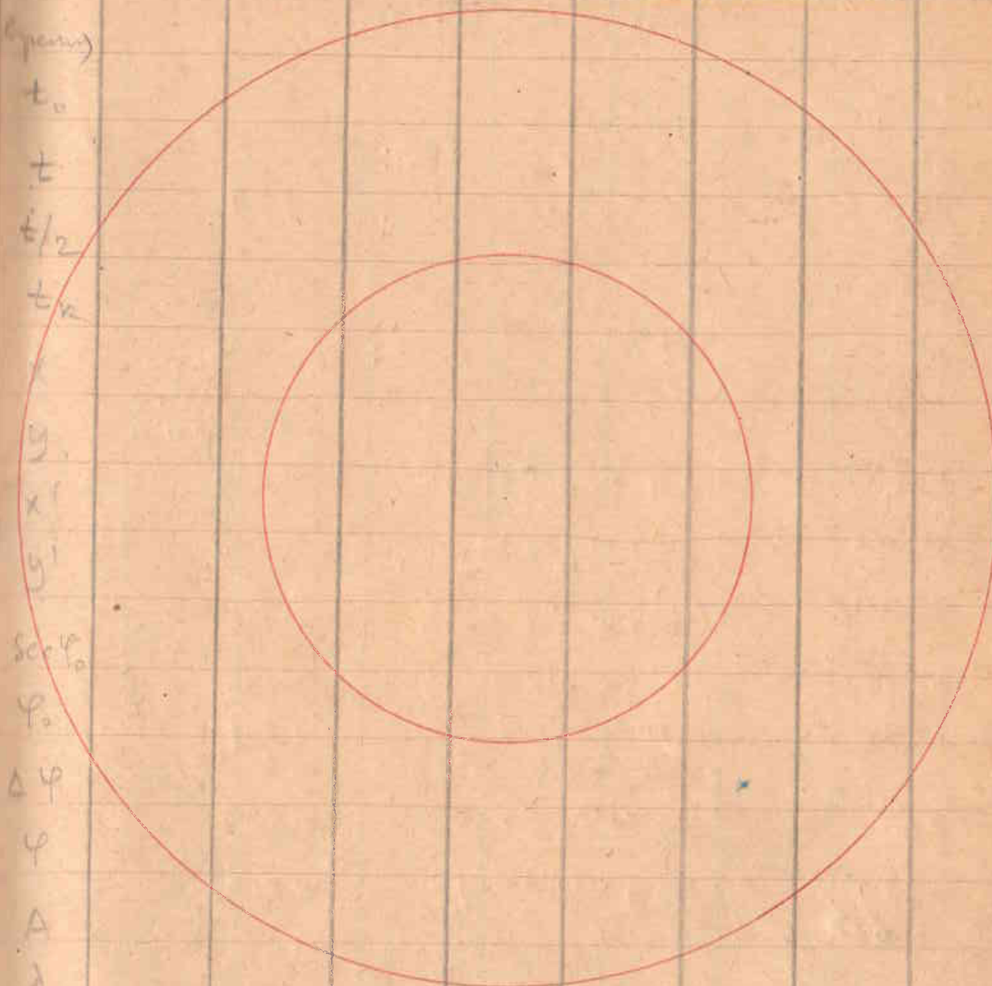
$2/\pi = 0.01531$

Оценки. Лев. ядер. 4.0 0.0 1.5

Светл. фак. 2.5

Темн. фак. 3.0

№ 26	
инт	
время	
t_0	
t	
$t/2$	
t_k	
x	
y	
x'	
y'	
$\sec\varphi_0$	
φ_0	
$\Delta\varphi$	
φ	
A	
λ_0	
$\Delta\lambda$	
λ	
L	
ℓ	
С.М.	

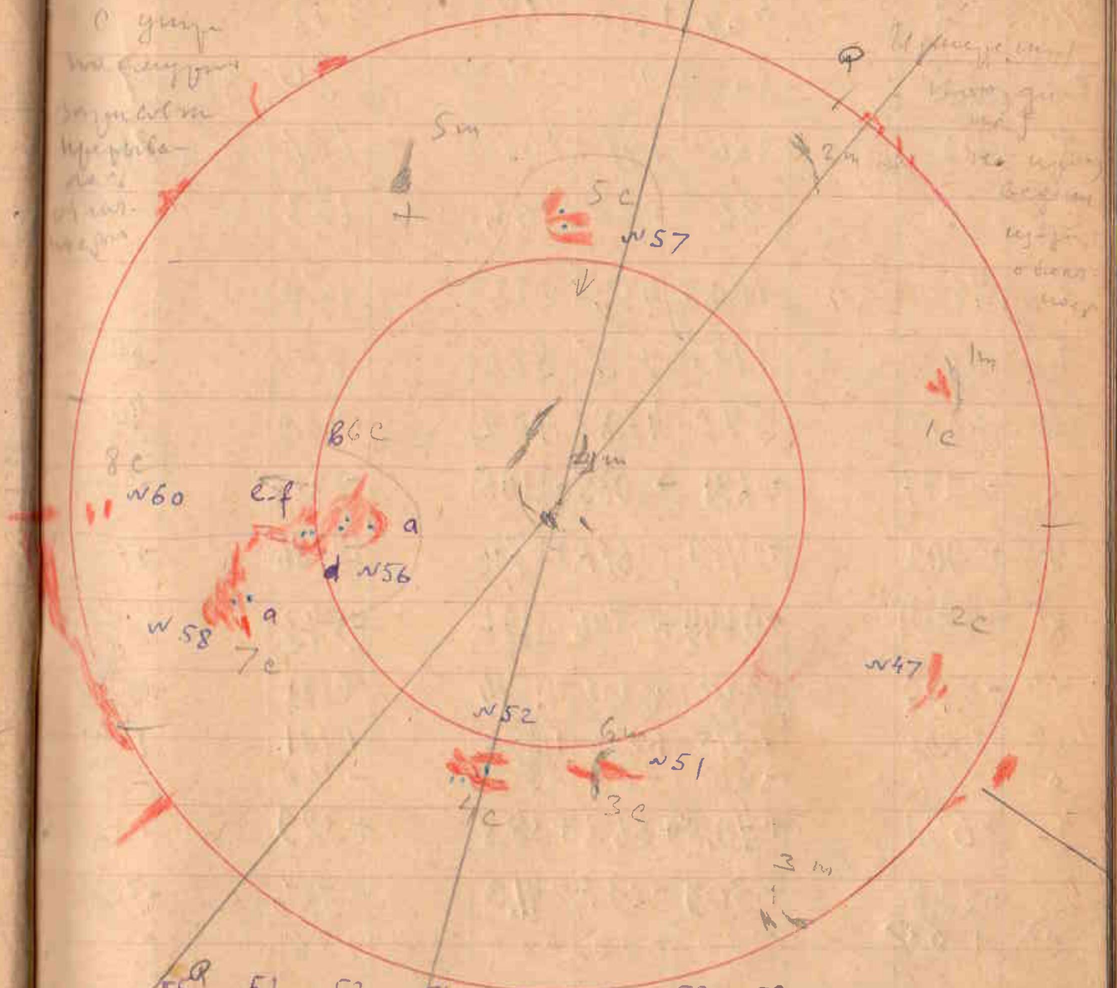


№	1m	2m	3m	4m	5m	6m
илл	1	2	2	2	3	2
время					10 28-28	
t_0					49.8:	
t					104.8:	
t/2						
tк					55.0:	
x						
y						
x'						
y'						

ℳ) предпол.   ♎) предпол.   ℳ) предпол.

№ 26   18 II 1946

Хр 2414 – Δt = 4¹⁵   3ч   8ч51м – 9ч56
8ч51м / 10ч28



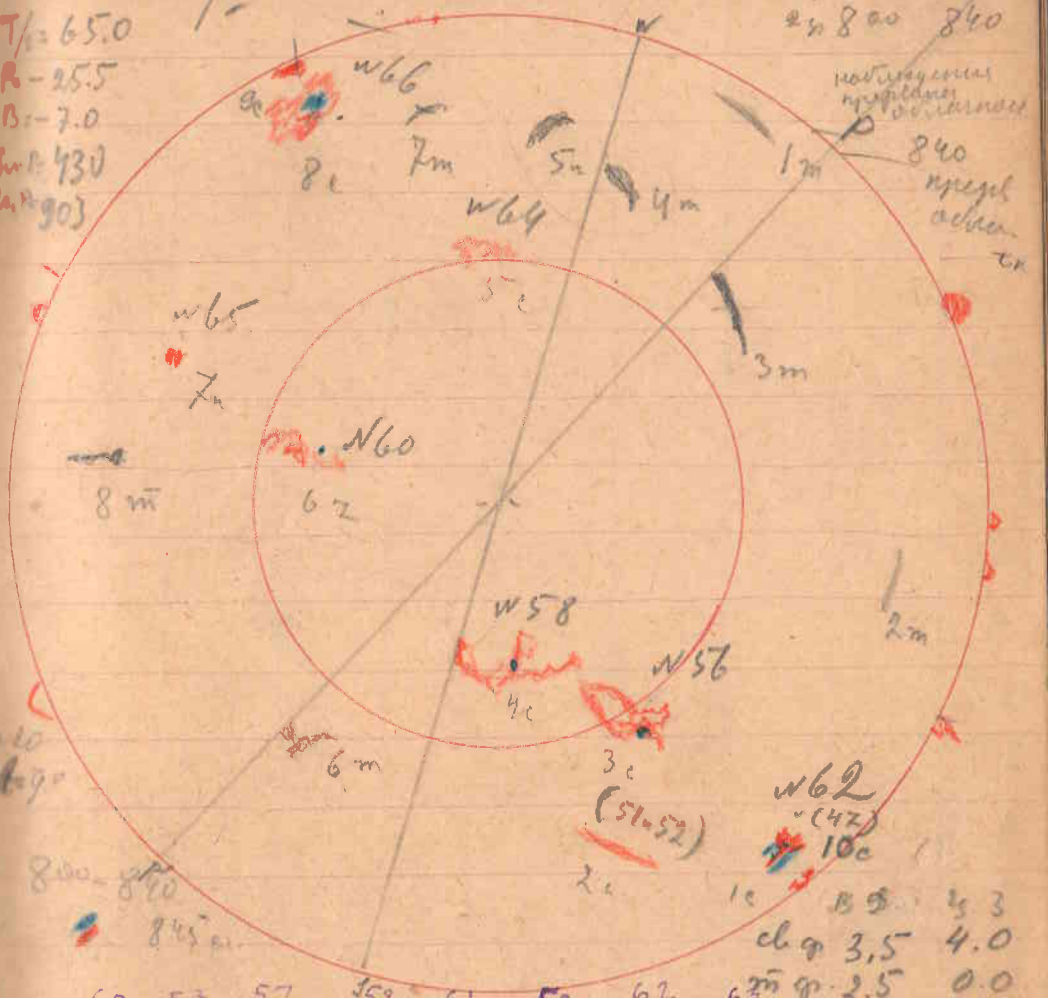
	55	51	53	54	56	57	58	59
№	1	2	3	4	5	6	7	8
илл	1	1	2	3	3	2	3	3
φ	+40:	−26	−36	−39	+19	−19	−28	−14
ℓ	140:	175	136	190	124	87	76	54
⊙ м	17.0	14.3	17.3	~~18.6~~ 18.5	18.2	21.0	21.9	23.5
№ гр.	—	47	51	52	57	56	58	60

№	1	2	3	4	5	6	7	8	9c
кнi	1	1	3	3	2	3	2	2	
Время	8^{20}_{30}		7^{03}_{09}	8^{00}_{810}	8^{10}_{18}		8^{10}_{18}		8^{10}_{18}
t_0	92		200	91	55		30	32	4
t	112		236	191	161		161	256	161
t_k	20		36	100	106		133		
t_0	46.0		100.0	45.5	27.5		15.0		2
t	56.0		118.0	95.5	80.5		80.5		80.5
$t/2$	28.0		59.0	47.8	40.2		40.2		40.2
x	+0.277		+0.631	−0.035	−0.195		−0.388		−0.588
y	+0.902		+0.419	+0.677	+0.786		+0.786		+0.785
x'	+0.934		+0.649	+0.596	+0.626		+0.543		+0.456
y'	−0.138		+0.390	−0.323	−0.514		−0.688		−0.869
$\sec \varphi_0$	2.803		1.315	1.246	1.283		1.191		1.123
$\Delta\varphi$	−6.4		−6.0	−6.4	−5.2		−4.0		−1.5
φ_0	+69.1		+40.5	+36.6	+38.8		+32.9		+27.[illegible]
λ_0	−22.8		+30.9	−23.7	−41.3		−55.0		−77.4
$\Delta\lambda$	+6.0		−3.0	+2.0	+3.8		+3.6		+3.5
φ	+62.7		+34.5	+30.2	+33.6	−40	+28.9	−36	+25.6
λ	−16.8		+27.9	−21.7	−37.5		−51.4		−73.9
L	69.5		70.2	69.7	69.6		69.6		69.6
l	52.7		98.1	48.0	32.1	41	18.2	352	355.7
с.м.	23.6		20.2	24.0	25.2	24.5	26.2	28.2	27.9
			(m)						

№27 22/III 46г

Зарис 555 650
1ч 555 700
2ч 800 840

T/₂ = 65.0
R − 25.5
B_0 − 7.0
Sw.P. 430
Cu.P. 903



наблюдения прервано облачностью
840 прерв. облачн.

B 9 4 3
св ф 3.5 4.0
см ф 2.5 0.0

	60	53	57	58	61	59	62	63		
№	1	2	3	4	5	6	7	8	9	10c
кнi	4	2	2	2	1	2	2	2	3	3
φ	−16	−38	−18	−27	+17	−14	−19	+20	+25	−26
l	131	127	92	78	45	54	14	8	356	175
С.М.	17.7	18.0	20.6	21.7	24.2	23.5	26.6	27.0	27.9	14.3 по лев.
Вып.	62	51 и 52	56	58	64	60	65	66	—	(47)

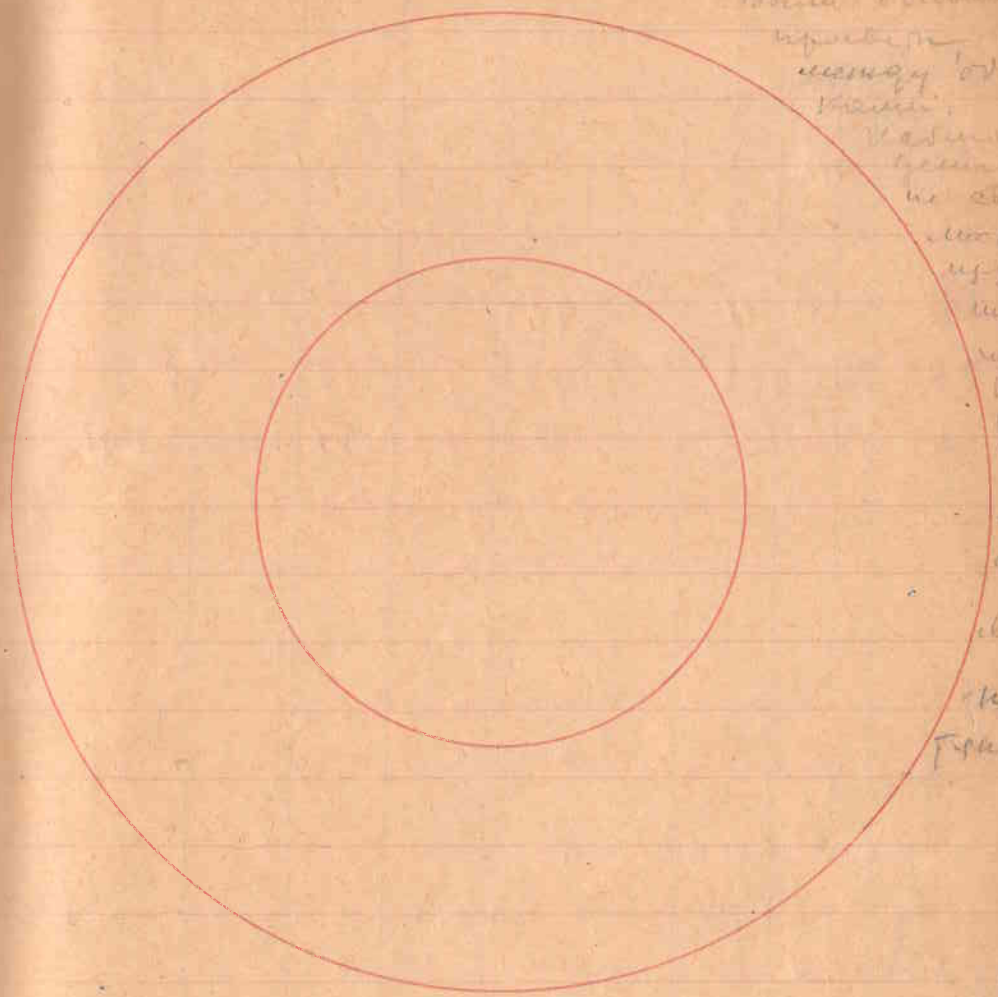
N
инт
время
t_0
t
t_v
$t/2$
x
y
x'
y'
$\sec\varphi_0$
$\Delta\varphi$
φ
A
λ_0
$\Delta\lambda$
λ
L
l
с.и.

~~№28~~ 23 III 1946

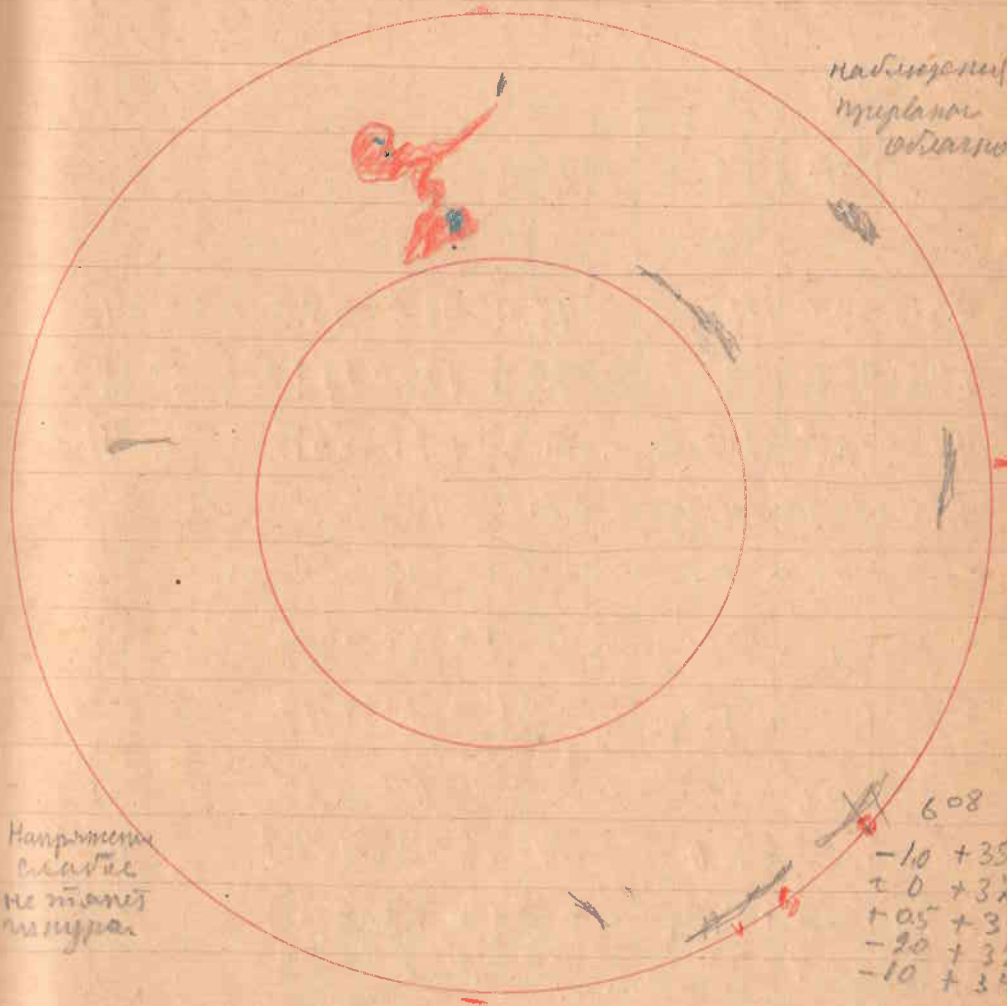
Ку 2414 1 = +2^s

Зар.

Были большие проверки между одинаками. Наблюдения не сводились из-за низкого наблюдения в серии [illegible] не [illegible]



Запись 600-620



N	1m	2m	3m	4m	5m	6m
шаг	2	1	2	1	3	<1
Время	6.11-18	6.11-18	6.14-27	28-39		35-39
t_0	29.4	78.4	85.6	19.0		35.6
t	82.2	82.2	107.6	126.4		96.2
$t/2$	41.1	41.1	53.9	63.2		48.1
t_k	3.8	3.5		104.[illegible]		
x	-.180	+.575	+.488	-.681		-.193
y	+.774	+.774	+.556	-.227		-.672
x'	+.619	+.947	+.712	-.500		-.689
y'	-.499	+.181	+.197	-.515		+.118
$\sec\varphi_0$	1.273	3.119	1.424	1.155		1.381
φ_0	+38.2	+71.3	+45.4	-30.0		-43.6
$\Delta\varphi$	-5.2	-5.6	-6.6	-5.5		-6.7
φ	+33.0	+65.7	+38.8	-35.5	-26	-50.3
A	4.2	3.8	1.9	4.0		1.0
λ_0	-39.4	+34.4	+16.3	-36.5		+9.4
$\Delta\lambda$	+3.3	-11.3	-2.0	-2.3		+1.0
λ	-36.1	+23.1	+14.0	-38.8		+10.4
b	31.1	31.1	31.0	31.0		30.9
e	355.0	54.2	45.0	352.2	80	41.3
C.M	28.0	23.5	24.2	28.2	21.6	24.5

$p = -25.8$

$B_0 = -6.8$

$\sin p = -.435$

$\cos p = +.900$

$T/2 = 64.9$

$2/T = 0.01541$

3	2.0	0.0
2.0	2.0	
2.0		

Сверх. дл.

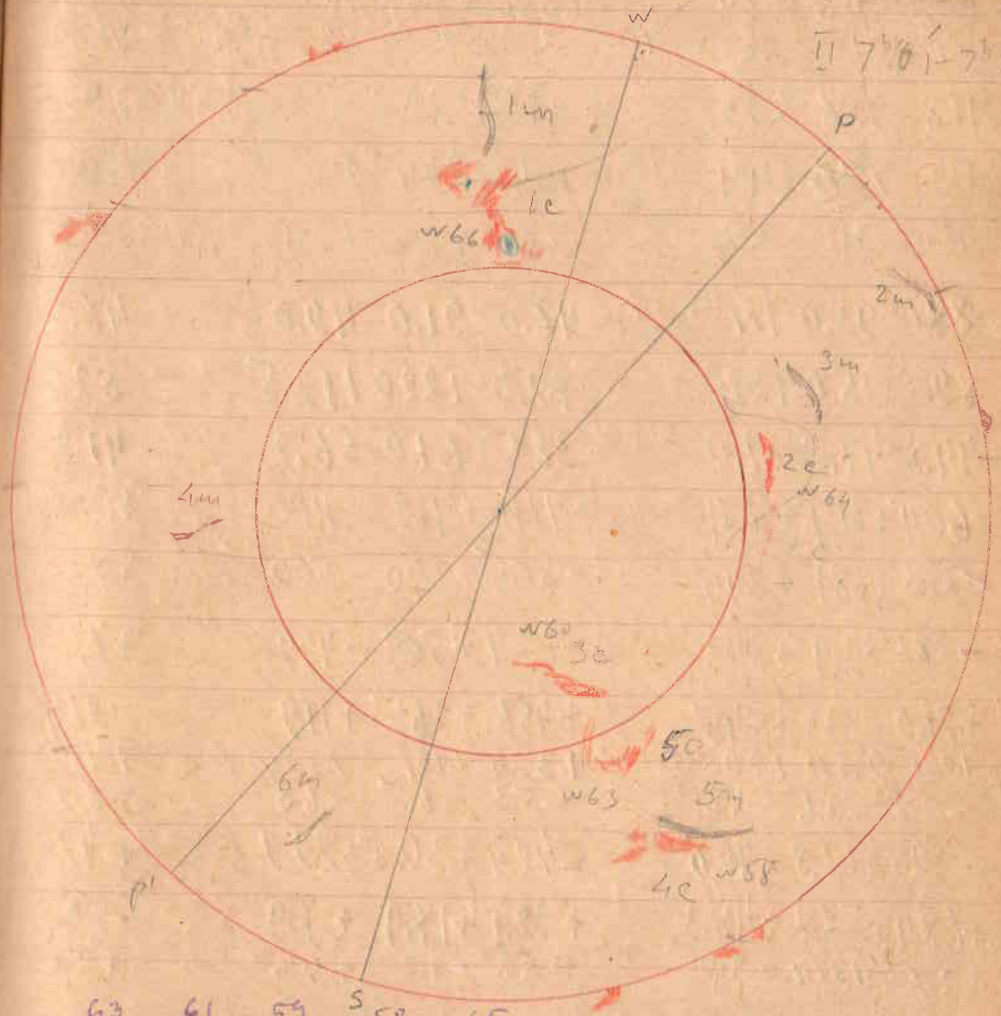
Прямн. дл.

№28 25 III 1946 Ед 2665 $\Delta = -19^s.5$

3 ед 5h10m-5h48

I 6h[illegible]

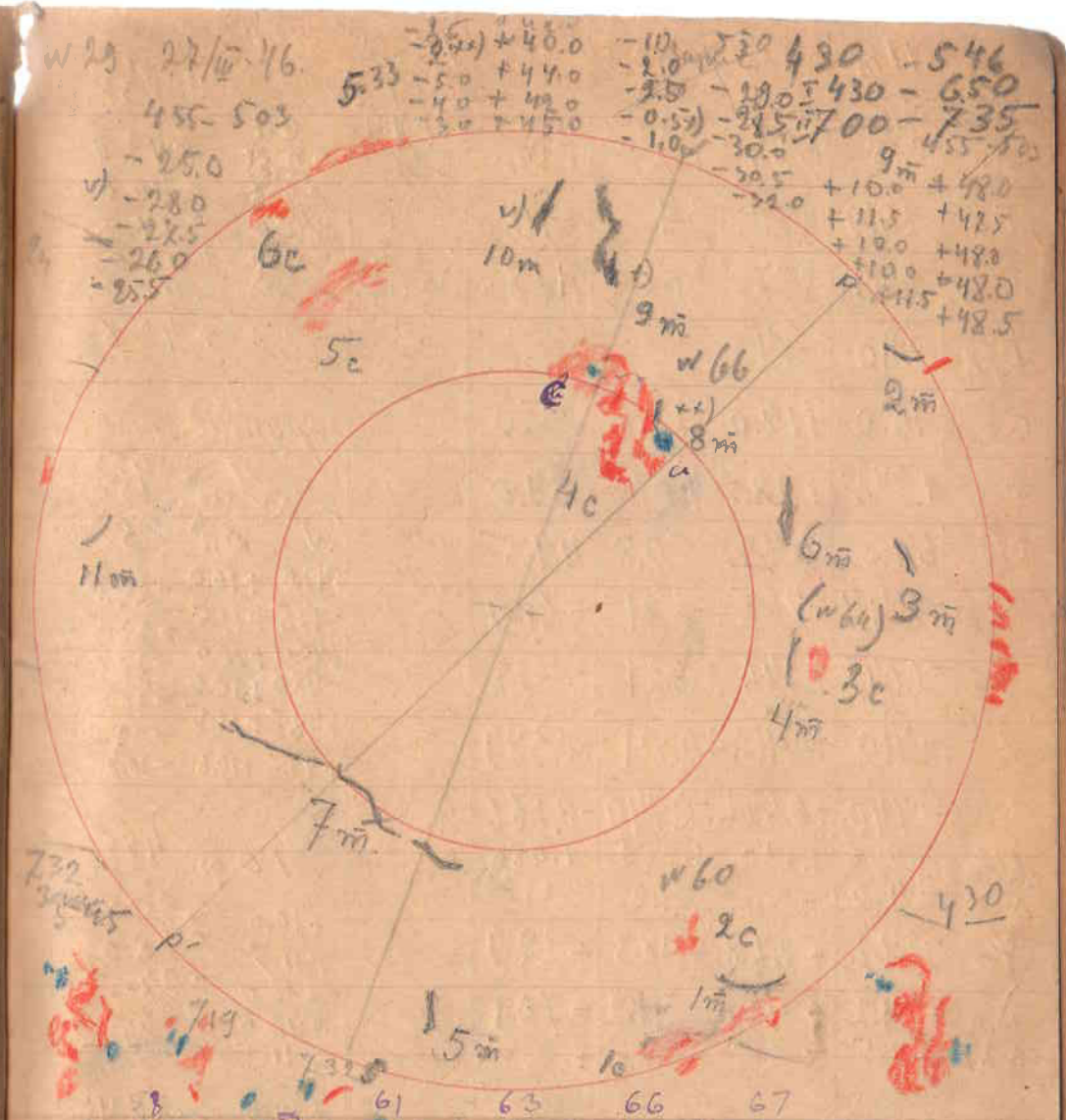
II 7h01-7h32



N	63	61	59	58	65
	1c	2c	3c	4c	5c
шаг	3	2	2	3	2
φ	+23	+17	-14	-28	-19
e	1.0	42	52	76	65
C.M	27.5	24.4	23.7	21.9	22.7
C.M	66	64	60	58	63

№	1	2	3	4	5	6	7	8	9
tm	5 48 / 57	7 02 / 06	6 24 / 34		5 57 / 6 02	6 24 / 34	6 03 / 10		34 / 645
шт	<1	1	2	1	2	2	2	[illegible]	[illegible]
t_0	168	186	222		92	182	98		93
t	179	190	244		154	244	225		165
$t/2$	11.0	4	22		62	60	126		75
t_0	84.0	93.0	111		46.0	91.0	49.0		46.5
t	89.5	95.0	122		77.0	122.0	112.5		82.5
$t/2$	44.8	47.5	61.0		38.5	61.0	56.2		41.2
x	+604	+701	+771		+116	+462	−111		+0.082
y	−723	+681	+340		−805	+340	−500		+773
x'	−387	+919	+643		−674	+508	−499		+732
y'	+860	+333	+545		+456	+265	+119		−264
$\operatorname{tg}\varphi_0$	1.085	2.538	1.305		1.354	1.161	1.154		1.469
$\Delta\varphi$	−2.5	−3.6	−4.8		−5.3	−6.5	−6.8		−6.2
φ_0	−22.8	+66.8	+40.0		−42.4	+30.5	−29.9		+47.1
λ_0	+68.9	+57.7	+45.3		+38.1	+17.9	+7.9		−22.8
$\Delta\lambda$	+2.7	−13.4	−4.0		+3.8	−1.2	+0.6		+2.6
φ	−25.3	+63.2	+35.2	+20	−47.7	+24.0	−36.7	+22	+40.9
λ	+71.6	+44.3	+41.3	−	+41.9	+16.7	+8.5	−	−20.2
L	4.9	4.3	4.6	−	4.9	4.6	4.8	5	4.5
l	76.5	48.6	45.9	44	46.8	21.3	13.3	4	344.3
с.м.	21.8	23.9	24.1	24.3	24.1	26.0	26.6	27.2	28.8
	1	2	4	5	3	6	7	8	9

№29 27/III 46.



	58	59	61	63	66	67			
	1c	2c	3c	4c	5c	6c			
шт	1	1	1	2	<1	1		ВД	ЦЗ
φ	−32	−15	+23	+20	+14	+21	cl_φ	1.5	1.0
l	76	58	47	359	315	297	m_φ	2.0	0.5
с.м.	21.9	23.2	24.1	27.7	31.0	1.4			
$l_{\text{ц.м}}$	на мест	на мест	на мест						
	№58	№60	№64	№66	−	−			

№ ф	11 т	3 с	5 с	6 с	10 т
ин	1				
Время	7 12/18	6 14/24	7 19/25	7 08/12	Эрут 5
t_0	20.0	228	34	10	
t	259	257	203	178	
$t/к$	240	34			
t_0	10.0	114.0	17.0	5.0	
t	129.5	128.5	101.5	89.0	
$t/2$	64.8	64.2	50.8	44.5	
x	-844	+767	-521	-609	
y	-0.045	+146	+621	+728	
x'	-410	+0.466	+0.331	+0.389	
y'	-740	+0.626	-0.740	-0.866	
$\Delta\varphi_0$	1.096	1.130	1.053	1.086	
$\Delta\varphi$	-4.0	-4.8	-4.2	-2.3	
φ_0	-24.2	+27.8	+18.3	+22.9	
λ_0	-54.2	+45.0	-57.2	-70.1	
$\Delta\lambda$	-2.5	-2.5	+1.7	+2.6	
φ	-28.2	+23.0	+14.1	+20.6	+39
λ	-56.7	+42.5	-49.5	-67.5	
u	4.2	4.7	4.1	4.2	
l	307.5	472	314.6	296.7	334:: ✓
[illegible]	31.6	24.0	31.1	1.6	(7) 29.6

Эрутив ф 8 т. 5h 33.

оп.	
-2.5	+42.0
-2.0	+40.0
-5.0	+44.0
-4.0	+42.0
-3.0	+45.0
-3.3	+42.6

Эрутив фле 9 т 4 55 / 5 03

N	оп.	S	оп.
+48.0	+10.0	-29.0	-1.0
+47.5	+11.5	-28.5	-2.0
+48.0	+10.0	-30.0	-2.5
+48.0	+10.0	-30.5	-0.5
+48.5	+11.5	-32.0	-1.0
+48.0	+10.6	-30.0	-1.4

10 ф. 4 55 / 5 03

+10.0	-25.0
+11.5	-28.0
+10.0	-27.5
+10.0	-26.0
+11.5	-25.5
+10.6	-26.4

8 т. не видна 1634 г.

Расчет лучевых скоростей за 27/III-46 г.

	8 тем.		9 т N		9 т S		10 т.	
	°	A°	°	A°	°	A°	°	A°
Флокул.	+42.6	+1.585	+48.0	+1.875	-30.0	-1.005	-26.4	-0.860
о.п.	-3.3	-0.100	+10.6	+0.335	-1.4	0.045	+10.6	+0.335
= =	-	+1.685	-	+1.540	-	-0.960	-	-1.295
лучев. скорост. =	+77.0 км/сек		+70.4 км/сек		-43.9 км/сек		-59.2 км/сек	

за 27/III-46 г.

$T/2 = -64.9$

$P = -25.9$

$B = -6.8$

$\sin P = 0.437$

$\cos P = 0.900$