Protocol for laboratory work 3.7.1.

Monochromator

Students: 1. Romāns P.

2.

Appointments:

1. Graduate the monochromator by using source with known (mercury or neon) spectrum.
2. Determine by using monochromator and the corresponding graduation curve, the wavelengths of brightest lines of given source.
3. Compare defined wavelengths with an etalon spectrum.
4. Compare experimentally defined wavelengths with theoretically calculated.

Used measuring devices and set-up

Nr..	*Title*	*Type, number*	*Measuring diapason*	*The value of smallest scale*
1.	Spectrometer	YM-2	0-3500°	2°

Measured data

Graduation:

Source of the light: H_2

	λ, nm	m, °
1.	404.7	1014
2.	407.8	1078
3.	433.9	1542
4.	434.7	1554
5.	435.8	1572
6.	491.6	2236
7.	496.2	2248
8.	512.1	2340
9.	546.1	2662
10.	567.6	2796
11.	577.0	2840
12.	579.0	2856
13.	607.3	2994
14.	612.3	3112
15.	623.6	3058
16.	671.6	3232
17.	690.7	3292
18.		

Δ464° Δ56° Δ322° Δ60

Δ64° +++ Δ68°

Δ30° + − Δ134°

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+++

+ −

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	colour	m, °
1.	VIO	1860°
2.	VIO	1928°
3.	B	2178°
4.	B	2246°
5.	B	2312°
6.	CYAN	2520°
7.	G	2696°
8.	Y	2858°
9.	Y	2894°
10.	ORANGE	2958°
11.	ORANGE	3008°
12.	R	3046°
13.	R	3080°
14.		
15.		
16.		
17.		
18.		

Δ250° Δ208° Δ116° Δ38°