UM-SJTU Physics Laboratory Vp241
Data Sheet (Exercise 2)

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Group: _____   Date: 2021. 11.5

NOTICE. Please remember to show the data sheet to your instructor before leaving the laboratory. The data sheet will not be accepted if the data are recorded with a pencil or modified with a correction fluid/tape. If a mistake is made in recording a datum item, cancel the wrong value by drawing a fine line through it, record the correct value legibly, and ask your instructor to confirm the correction. Please remember to take a record of the precision of the instruments used. You are required to hand in the original data with your lab report, so please keep the data sheet properly.

U_S [V] $\pm$ 0.5% [V]	$U_0(I_M = 0)$ [V] $\pm$ 0.05% [V]	$U(I_M = 250 \text{ mA})$ [V] $\pm$ 0.05% [V]
4.99	2.477	2.597

(annotations: $+ 6\times10^{-3}$ or 6×10^{-4} ; $+$ or 6×10^{-4} ; $\ast 0.05\%$)

Table 1. Data for U_0 and U with $U_S = 5$ V.

	U_S [V] $\pm$ 0.5% [V]	U_0 [V] $\pm$ 6×10^{-3} [V]	U [V] $\pm$ 6×10^{-3} [V]
1	2.80	1.3882	1.4575
2	3.20	1.5883	1.6667
3	3.60	1.7856	1.8735
4	4.00	1.9835	2.0826
5	4.40	2.183	2.289
6	4.80	2.381	2.495
7	5.20	2.578	2.700
8	5.60	2.774	2.902
9	6.00	2.971	3.106
10	6.40	3.174	3.314
11	6.80	3.366	3.509
12	7.20	3.560	3.705
13	7.60	3.753	3.902
14	8.00	3.953	4.104
15	8.40	4.144	4.300
16	8.80	4.339	4.496
17	9.20	4.532	4.687
18	9.60	4.726	4.882

(annotations above columns: 0.05% or 6×10^{-4} ; 0.05% or 6×10^{-4})

Table 2. Data for U_0 and U with different U_S.

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$$+ 6\times10^{-4}$$

	I_M [mA] ± 2% [mA]	U [mV] ± 0.05% [mV]
1	~~0.00~~ 0	0.00
2	~~0.05~~ 50	30.00
3	~~0.10~~ 100	51.00
4	~~0.15~~ 150	74.50
5	~~0.20~~ 200	95.00
6	~~0.25~~ 250	120.00
7	~~0.30~~ 300	142.60
8	~~0.35~~ 350	166.00
9	~~0.40~~ 400	187.00
10	~~0.45~~ 450	209.60
11	~~0.50~~ 500	233.30

Table 3. Measurement data for the I_M vs. U relation.

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	x [cm] ± 0.05 [cm]	U [mV] ± 0.05 [mV] +b×10⁻⁴		x [cm] ± 0.05 [cm]	U [mV] ± 0.05 [mV] +b×10⁻⁴
1	0.00	10.40	27	15.60	118.68
2	0.60	14.11	28	16.20	118.80
3	1.20	20.60	29	16.80	118.83
4	1.80	30.75	30	17.40	118.90
5	2.40	47.60	31	18.00	118.88
6	3.00	68.50	32	18.60	118.92
7	3.60	86.24	33	19.20	118.75
8	4.20	98.20	34	19.80	118.60
9	4.80	105.50	35	20.40	118.50
10	5.40	110.00	36	21.00	118.40
11	6.00	112.60	37	21.60	118.00
12	6.60	114.55	38	22.20	117.71
13	7.20	115.60	39	22.80	117.32
14	7.80	116.60	40	23.40	116.83
15	8.40	117.10	41	24.00	116.19
16	9.00	117.70	42	24.60	115.13
17	9.60	118.00	43	25.20	113.83
18	10.20	118.20	44	25.80	111.70
19	10.80	118.50	45	26.40	108.33
20	11.40	118.55	46	27.00	102.43
21	12.00	118.70	47	27.60	93.55
22	12.60	118.80	48	28.20	78.60
23	13.20	118.80	49	28.80	59.65
24	13.80	118.79	50	29.40	39.76
25	14.40	118.65	51	30.00	25.73
26	15.00	118.70	52		

Table 4. Data for the U vs. x relation.

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