UM-SJTU Joint Institute
Physics Laboratory
Data Sheet (Exercise 3)

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Group: 11　　Date: 10.24

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.

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spring 1 [cm] ± 0.02 [mm]		spring 2 [cm] ± 0.02 [mm]		series [ ] ± ___ [ ]	
L_0	36.060	L_0	36.054	L_0	
L_1	38.954	L_1	38.830	L_1	
L_2	41.662	L_2	41.578	L_2	
L_3	44.446	L_3	44.424	L_3	
L_4	47.176	L_4	47.214	L_4	
L_5	50.008	L_5	50.016	L_5	
L_6	52.768	L_6	52.880	L_6	

Table 1. Spring constant measurement data.

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ten periods [S] ± 0.001 [S]					
horizontal		incline 1		incline 2	
m_1	12.4211 12.3818	m_1	12.3889 12.4241	m_1	12.3802 12.4207
m_2	12.6347 12.6098	m_2	12.6011 12.6348	m_2	12.6015 12.6400
m_3	12.8560 12.8114	m_3	12.8178 12.8513	m_3	12.8166 12.8571
m_4	13.0689 13.0356	m_4	13.0388 13.0725	m_4	13.0389 13.0728
m_5	13.2828 13.2483	m_5	13.2514 13.2843	m_5	13.2480 13.2862
m_6	13.4548	m_6	13.4557 13.4859	m_6	13.4560 13.4932

Table 2. Measurement data for the T vs. M relation.

A [cm] ± 0.1 [cm]	ten periods [S] ± 0.0001 [S]
1	5.0 13.0616
2	10.0 13.0689
3	15.0 13.0816
4	20.0 13.0812
5	25.0 13.0823
6	30.0 13.0804

Table 3. Data for the T vs. A relation.

A [cm] ± 0.1 [cm]	Δt [S] ±0.0000 [S]
1	5.0 0.04541
2	10.0 0.02138
3	15.0 0.01447
4	20.0 0.01081
5	25.0 0.00863
6	30.0 0.00715

x_{in} [mm] ± 0.02 [mm]	x_{out} [mm] ± 0.02 [mm]
4.44	15.50
4.46	15.54
4.44	15.52

Table 4. Data for the v_{max}^2 vs. A^2 relation.

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m [g] ± 0.01 [g]	
1	~~119.18~~ 47
2	9.50
3	14.26
4	19.09
5	23.90
6	28.63

Table 5. Weight measurement data.

object with I-shape m_{obj} [g] ± ~~119~~ [0.0]	
119.18	
object with U-shape m_{obj} [g] ± 0.01 [g]	
128.24	
mass of springs 1 & 2 $m_{\text{spr1\&2}}$ [g] ± 0.01 [	
27.17	
equivalent mass $M_0 = m_{\text{obj}} + \frac{1}{3}m_{\text{spr1\&2}}$ [g]	
I-shape	128.24
U-shape	137.40

Table 6. Mass measurement data.

Instructor's signature: