UM-SJTU Physics Laboratory
Data Sheet (Exercise 4)

Name: _____ Student ID: _____

Name: _____ Student ID: _____

Group: _____ Date: _____

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 pencil or modified by 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.

Uncertainty of θ is [__]°.

Maximum Electric Current I_0		____ ± ____ [__]	
θ	I [__] ± ____ [__]	θ	I [__] ± ____ [__]
0°		50°	
5°		55°	
10°		60°	
15°		65°	
20°		70°	
25°		75°	
30°		80°	
35°		85°	
40°		90°	
45°			

Table 1. Measurement data Malus' law demonstration.

Instructor's signature: _____

Rotation angle of the 1/2–wave plate	Rotation angle of the analyzer [°] ±[__]°
initial	
10°	
20°	
30°	
40°	
50°	
60°	
70°	
80°	
90°	

Table 2. Measurement data for the 1/2–wave plate.

Instructor's signature: _____

Rotation angle of 1/4–wave plate: 0°			
Maximum Electric Current I_0 ____ ± ____ [__]			
θ	I [__] ± ____ [__]	θ	I [__] ± ____ [__]
0°		180°	
10°		190°	
20°		200°	
30°		210°	
40°		220°	
50°		230°	
60°		240°	
70°		250°	
80°		260°	
90°		270°	
100°		280°	
110°		290°	
120°		300°	
130°		310°	
140°		320°	
150°		330°	
160°		340°	
170°		350°	

Table 3. Measurement data for the 1/4–wave plate (rotation angle 0°).

Instructor's signature: _____

Rotation angle of the 1/4–wave plate: 20°			
Maximum Electric Current I_0 ____ ± ____ [__]			
θ	I [__] ± ____ [__]	θ	I [__] ± ____ [__]
0°		180°	
10°		190°	
20°		200°	
30°		210°	
40°		220°	
50°		230°	
60°		240°	
70°		250°	
80°		260°	
90°		270°	
100°		280°	
110°		290°	
120°		300°	
130°		310°	
140°		320°	
150°		330°	
160°		340°	
170°		350°	

Table 4. Measurement data for the 1/4–wave plate (rotation angle 20°).

Instructor's signature: _____

Rotation angle of the 1/4–wave plate: 45°			
Maximum Electric Current I_0 ____ ± ____ [__]			
θ	I [__] ± ____ [__]	θ	I [__] ± ____ [__]
0°		180°	
10°		190°	
20°		200°	
30°		210°	
40°		220°	
50°		230°	
60°		240°	
70°		250°	
80°		260°	
90°		270°	
100°		280°	
110°		290°	
120°		300°	
130°		310°	
140°		320°	
150°		330°	
160°		340°	
170°		350°	

Table 5. Measurement data for the 1/4–wave plate (rotation angle 45°).

Rotation angle of the 1/4–wave plate: 70°	
θ [°] ± [__]°	
I [__] ± ____ [__]	

Table 6. Measurement data for the 1/4–wave plate (rotation angle 70°).

Instructor's signature: _____

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