

UM-SJTU JOINT INSTITUTE
PHYSICS LABORATORY
DATA SHEET (EXERCISE 4)

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Group: 11

Date: 20.9.19

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.

Frequency of the sound wave $f = 3856 \text{ [kHz]} \pm 0.001 \text{ kHz}$
 Temperature $T = 26 \text{ [}^\circ\text{C]} \pm 1 \text{ [}^\circ\text{C]}$

L_i [mm] ± 0.001 [mm]	L_i [mm] ± 0.001 [mm]
1 105.024 23.278	7 50.465
2 709.934 27.834	8 55.218
3 145.148 32.339	9 59.802
4 36.962	10 64.334
5 41.395	11 68.886
6 46.034	12 73.271

Table 1. Data table for the resonance method.

L_i [mm] ± 0.001 [mm]	L_i [mm] ± 0.001 [mm]
1 23.189	7 77.526
2 32.287	8 86.587
3 41.353	9 95.945
4 50.392	10 104.934
5 59.435	11 113.843
6 68.454	12 122.790

Table 2. Data table for the phase comparison method.

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	t_i μs ± 0.2 μs	L_i mm ± 0.001 mm
1	74.8	100.806
2	78.2	105.901
3	81.4	110.662
4	84.8	116.354
5	88.4	121.534
6	91.6	124.768 124.768
7	94.4	130.630
8	97.00	134.842 133.842
9	100.6	138.654
10	101.6	140.660
11	103.8	143.286
12	105.8	146.286

Table 3. Data table for the time difference method (liquid).

Instructor's signature: Yang Xinyi