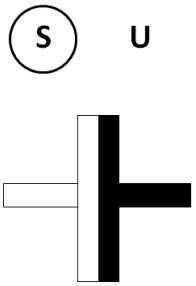
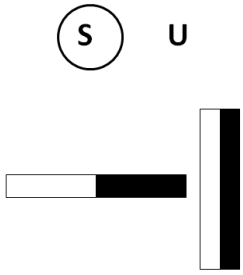
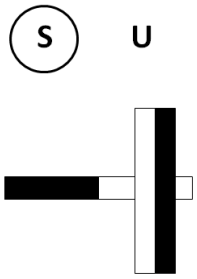
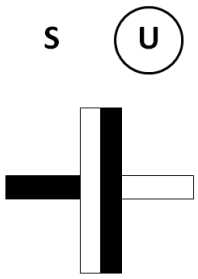
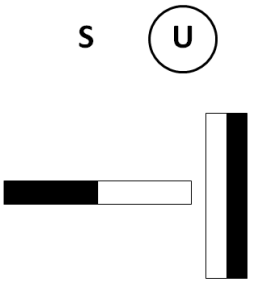
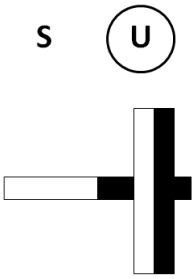
풀이 – 실험 문제 2

과제 1		점수
		0.25
		0.45
		0.45
		0.45



0.45



0.45

과제 2 점수

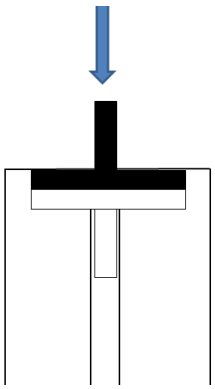
측정에서 이용해야 할 대칭성:

$F_{\uparrow\downarrow}(z) = -F_{\uparrow\downarrow}(-z)$
$F_{\uparrow\downarrow}(z) = -F_{\uparrow\uparrow}(z)$
위의 두 식에서 다음도 얻는다: $F_{\uparrow\uparrow}(z) = -F_{\uparrow\uparrow}(-z)$

0,6

장치를 그대로 쓰면, 세 안정 평형점에서 측정을 시작해 곡선 전체를 잴 수 있다. 평형점(z0)도 장치를 써서 잴 수 있다.

배치:



측정값:

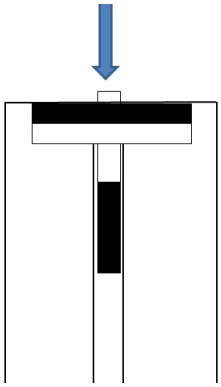
z0=0mm	m [g]	Δz [mm]
	0	0
	31	1
	55	2
	75	3
	97	4

0,8

119	5	
140	6	
158	7	
171	8	
170	9	
118	10	
85	10,25	
50	10,5	
10	10,75	

0,8

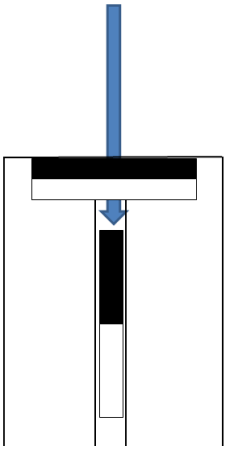
배치:



측정값:

z0=10.8mm	m [g]	Δz [mm]
	0	0
	233	1
	538	2
	927	3
	996	3,5
	1124	4
	1154	4,5
	1213	5
	1212	5,5
	1120	6
	873	6,5
	284	7
	36	7,5

배치:

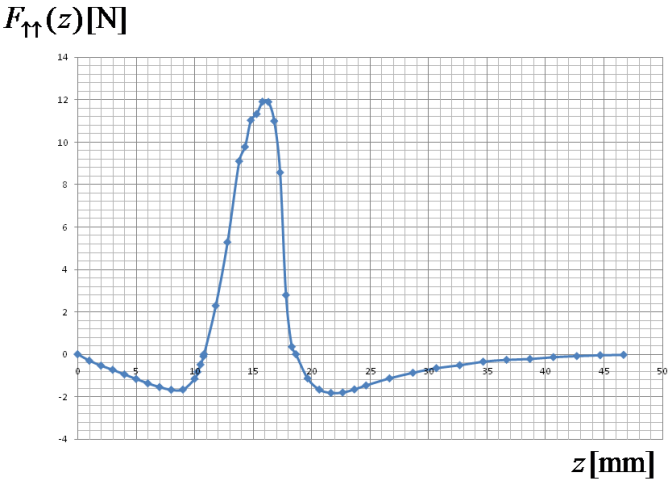


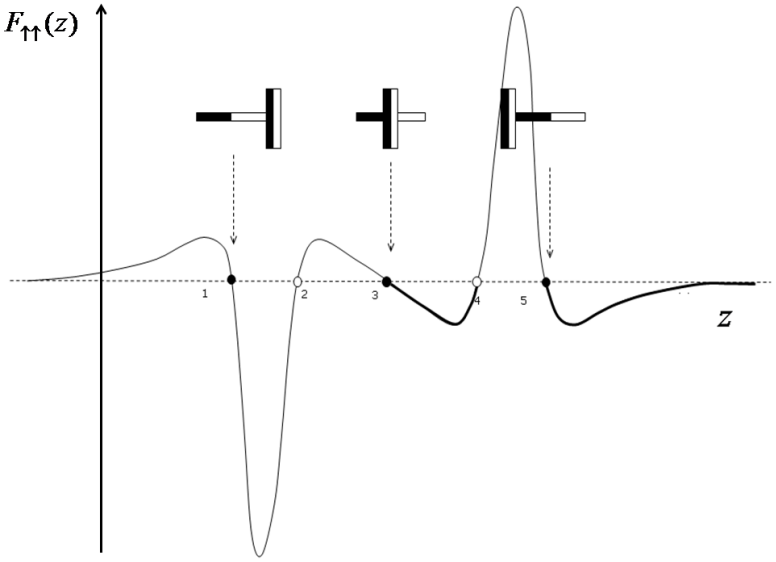
0,8

측정값:

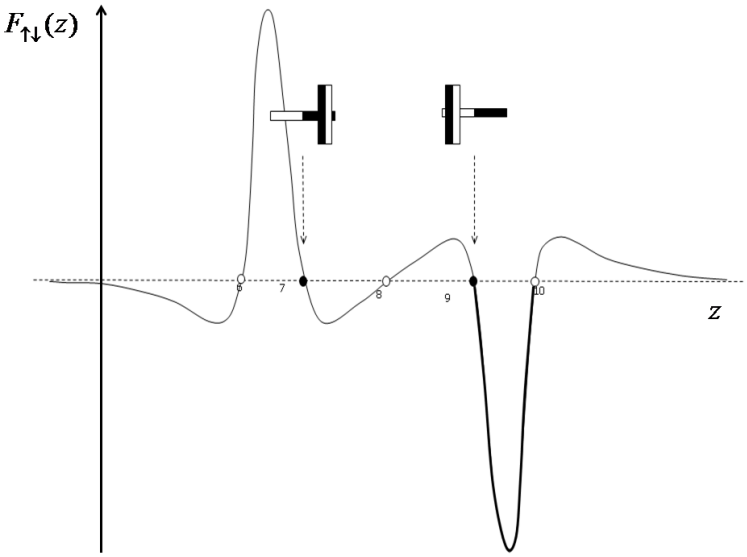
z0=18.6mm	m [g]	Δz [mm]
	0	0
	116	1
	170	2
	186	3
	184	4
	169	5
	150	6
	116	8
	89	10
	67	12
	53	14
	36	16
	27	18
	23	20
	14	22
	9	24
	5	26
	3	28

과제 3		점수
	대칭성 때문에, 예컨대 다음 그래프 하나만 자세히 그려도 충분하다:	2


$F_{\uparrow\uparrow}(z)$ [N]
z [mm]

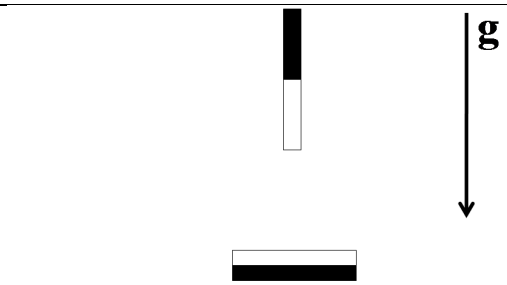
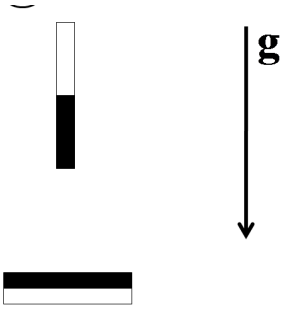

$F_{\uparrow\uparrow}(z)$
1
2
3
4
5
z

1


$F_{\uparrow\downarrow}(z)$
6
7
8
9
10
z

1

과제 4 점수

		0,5
	또는 	
합계:		10.0