

Phase 3:

Measuring board every 5cm.

```
%A0 = [0 0; 5 5.38; 10 10.50; 15 15.36; 20 20.69; 25 25.81; 30 30.72; 35 35.59; 40 40.55; 45 45.62; 50 50.57; 55 55.66; 60 60.67; 65 65.66; 70 70.66; 75 75.66; 80 80.66; 85 85.66; 90 90.66; 95 95.66; 100 100.66]
```

Theoretical:

```
x = [0; 5; 10; 15; 20; 25; 30; 35; 40; 45; 50; 55; 60; 65; 70; 75; 80; 85; 90; 95; 100]
```

```
x = 21x1
    0
     5
    10
    15
    20
    25
    30
    35
    40
    45
     ⋮
     ⋮
```

Experimental

```
y = [0; 5.38; 10.50; 15.36; 20.69; 25.81; 30.72; 35.59; 40.55; 45.62; 50.57; 55.66; 60.67; 65.66; 70.66; 75.66; 80.66; 85.66; 90.66; 95.66; 100.66]
```

```
y = 21x1
     0
  5.3800
 10.5000
 15.3600
 20.6900
 25.8100
 30.7200
 35.5900
 40.5500
 45.6200
     ⋮
     ⋮
```

```
A = [x ones(21,1)]
```

```
A = 21x2
     0     1
     5     1
    10     1
    15     1
    20     1
    25     1
    30     1
    35     1
    40     1
    45     1
     ⋮
     ⋮
```

Solve for $y = mx + b$

$$Z = A \backslash y$$

```
Z = 2x1  
    0.9994  
    0.5125
```

$$y = .9994x + 0.5125$$

```
plot(x, '--x')  
hold on  
plot(y, '-o')  
hold off
```

