Lab Experiment

Beam Bending

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December 8, 2022

Section A

In this section, the Young's modulus of two materials (mild steel and aluminium) can be calculated from experimental data.

A total of six groups of data were obtained from the experiment. (See Table 1)

No.	Material	Final load (N)
1	Steel	50
2	Steel	100
3	Steel	150
4	Aluminium	50
5	Aluminium	100
6	Aluminium	150

Table 1: result of A1 regression analysis

By plotting these 6 groups of data on a scatter plot and performing regression analysis, a total of 6 groups of graphs were obtained.

The results are shown in the next section.

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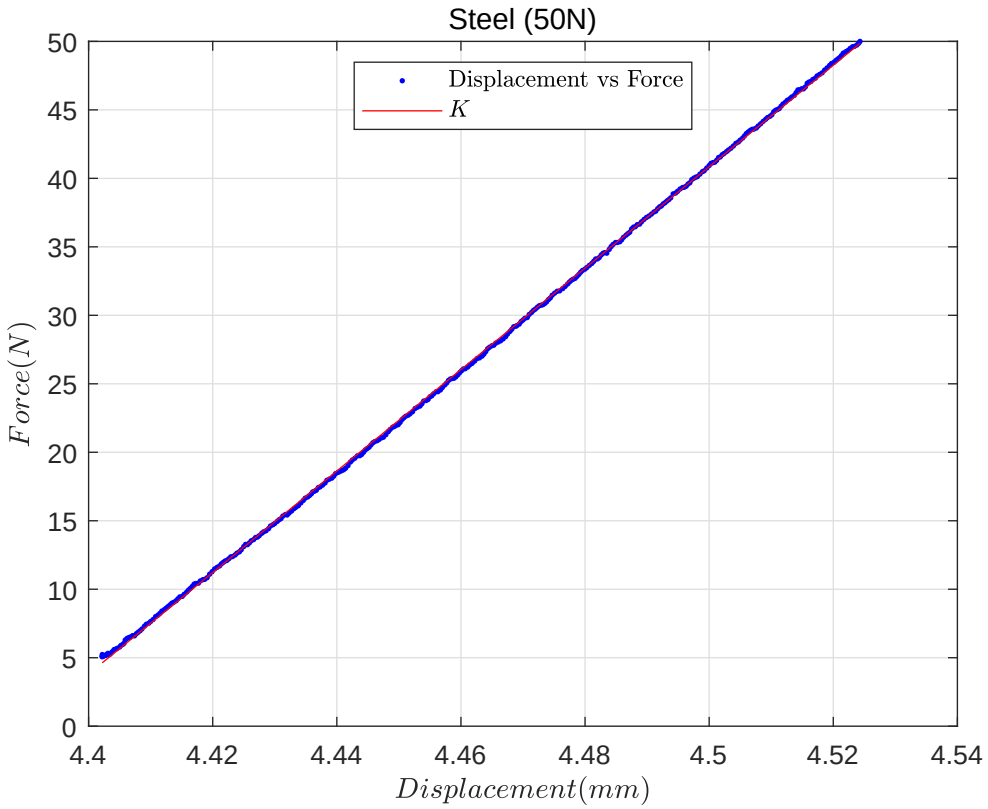

Figure 1: yes

Analysis

Modulus of Elasticity	Mild Steel	Aluminium
$E_1(P = 50N)$	171.482	64.3056
$E_2(P = 50N)$	175.509	64.5370
$E_3(P = 50N)$	171.019	62.4074
$E_{exp} = (E_1 + E_2 + E_3)/3$	172.670	63.75

(Unit: GPa)

Table 2: result of A1 regression analysis

Section B

Results

Summarise

Section C

Results

Summarise

Section D

Results

Summarise