FYSC23

Semiconductor lab

Author
Fredrik Bergelv
`fredrik.bergelv@live.se`

LUND UNIVERSITY

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Abstract

Contents

1 Introduction

2 Experiment

2.1 Part 1

Wavelength white LED: 454.17 nm integration time 70 ms averaging every 10th measurements

Mesurment	V_{in} (V)	V_{across} (V)	$I_{circuit}$ (mA)	Intensity (counts)
1	1	1.14	0.0	5.00
2	1.8	1.96	0.0	8.00
3	2.2	2.41	0.00	4.70
4	2.5	2.56	0.36	590.30
5	2.9	2.66	3.11	4377.70
6	3.3	2.72	6.21	7979.50
7	3.7	2.76	9.24	10846.90
8	4.4	2.84	15.24	16080.10
9	5.3	2.93	24.5	21958.10
10	6.5	3.02	35.2	27642.20
11	7.3	3.08	42.6	30184.80
12	8.3	3.15	52.0	33590.00
13	9.1	3.20	59.0	36153.70

Table 1: tab:part1

2.2 Part 1
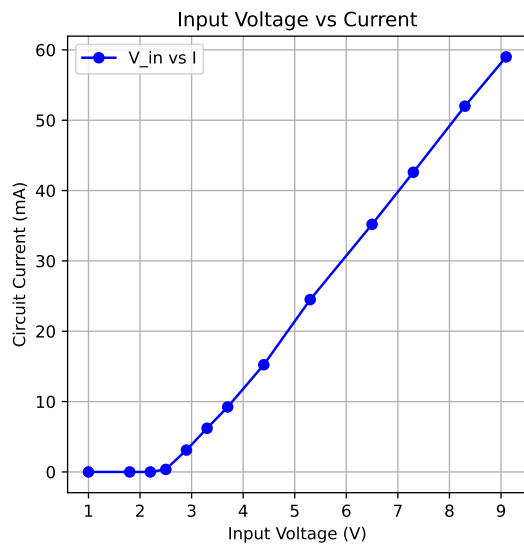
Wavelength white LED: 596.85 nm integration time 2 ms averaging every 10th measurements

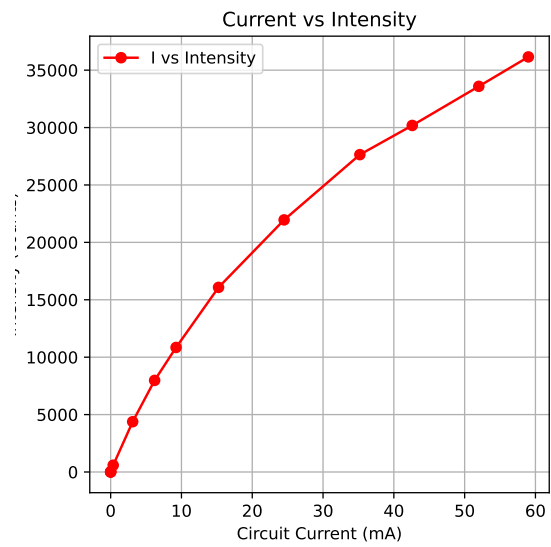Before: V_{in} was 5.0 V, V_{across} 2.06 V, $I_{circuit}$ 30.8 mA and the intensity 2663.70

After: V_{in} was 5.0 V, V_{across} 4.44 V, $I_{circuit}$ 7.7 mA and the intensity 10752.70
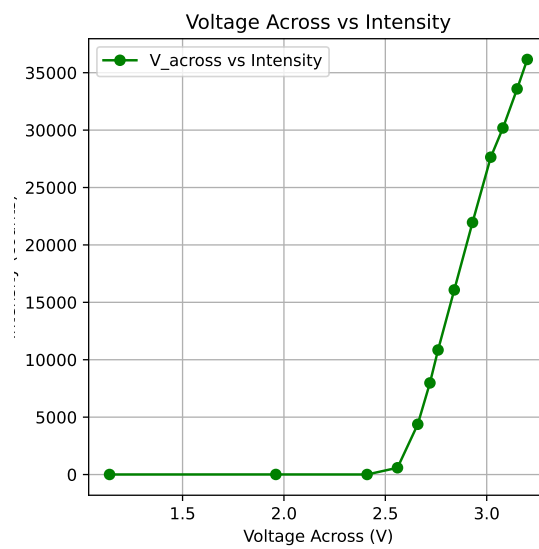
3   Result

3.1   Part 1

(a) Spring
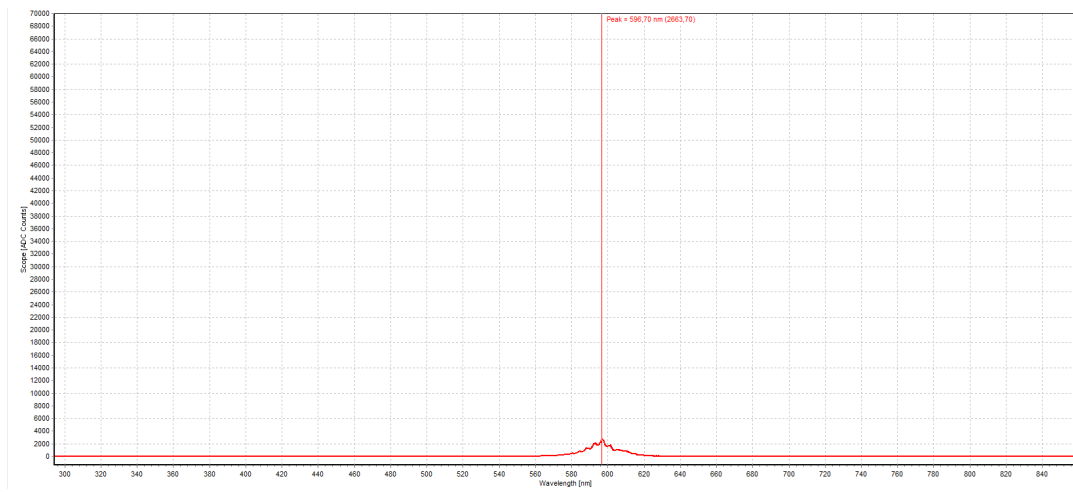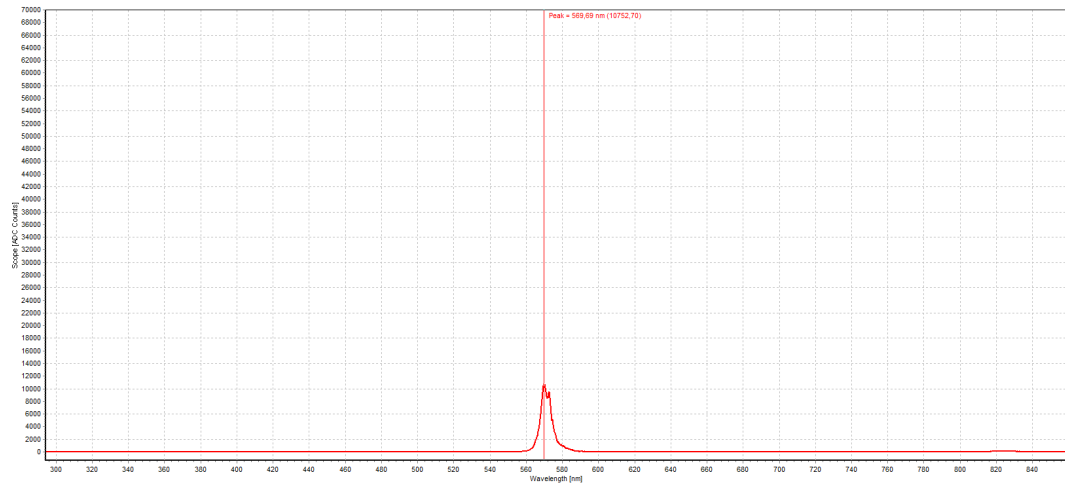
(b) Summer

(c) Autumn

Figure 1: Histograms for different seasons.

3.2   Part 2

(a) Spring

(b) Summer

Figure 2: ...

3.3   Part 3

Detector/Emitter	Red	Green	Blue
Red	Output	No output	No output
Green	Output	Output	No output
Blue	Output	Output	Output

Table 2: tab:part1

4   Discussion

5   Conclusion