

Polarization

FYS2150 Lab Report

Nicholas Karlsen

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Abstract

Studying the properties of linearly and circularly polarized light and testing how well the properties match up to theoretical predictions.

1 Introduction

2 Theory

3 Experimental Procedure

4 Results

The intensity measurements presented in table 1, where light from a spectral lamp is passed through a single polarization filter has a standard deviation of 19, which is used as the estimated uncertainty for further measurements made with the luxmeter.

Table 1: Measured intensity when passing unpolarized light through a single polarization filter, θ denoting the angle of the filter.

θ [deg]	Intensity [Lux]
0	705
-10	701
-20	706
-30	718
-40	726
-50	734
-60	743
-70	751
-80	756
-90	759
10	703
20	713
30	719
40	726
50	736
60	745
70	753
80	758
90	754

Table 2: Measured intensity when passing unpolarized light through a single polarization filter, θ denoting the angle of the filter.

θ [deg]	Intensity [Lux]
0	133
-10	129
-20	119
-30	103
-40	82
-50	59
-60	38
-70	20
-80	8
-90	4
10	129
20	117
30	99
40	78
50	56
60	34
70	17
80	7
90	4

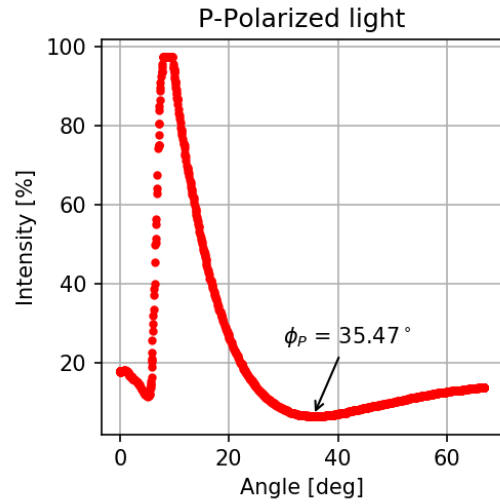


Figure 1: Intensity profile of p-polarised light

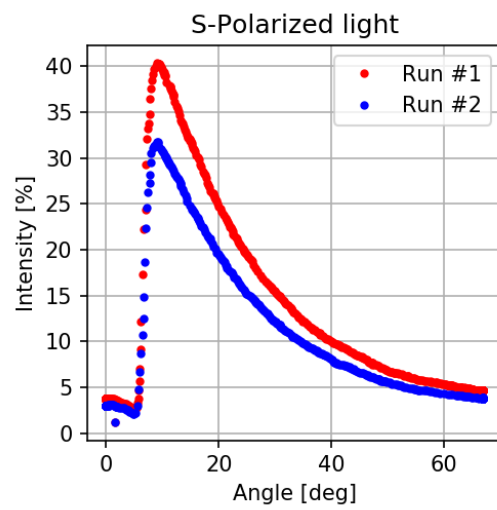


Figure 2: Intensity profile of p-polarised light

5 Discussion

6 Conclusion