

Waveoptics

FYS2150 Lab Report

Nicholas Karlsen

May 11, 2018

Abstract

1 Introduction

2 Theory

3 Experimental Procedure

3.1 Zeeman effect

4 Results

4.1 Spectral Lines

Table 1: Hydrogen Lines

α_v	α_h	θ	λ [nm]
$167.40 \pm 0.01^\circ$	$228.80 \pm 0.01^\circ$	$30.70 \pm 0.01^\circ$	432.28 ± 3.55
$163.10 \pm 0.01^\circ$	$223.30 \pm 0.01^\circ$	$30.10 \pm 0.01^\circ$	424.63 ± 0.93
$146.10 \pm 0.01^\circ$	$248.80 \pm 0.01^\circ$	$51.35 \pm 0.01^\circ$	661.25 ± 2.59

4.2 Zeeman Effect

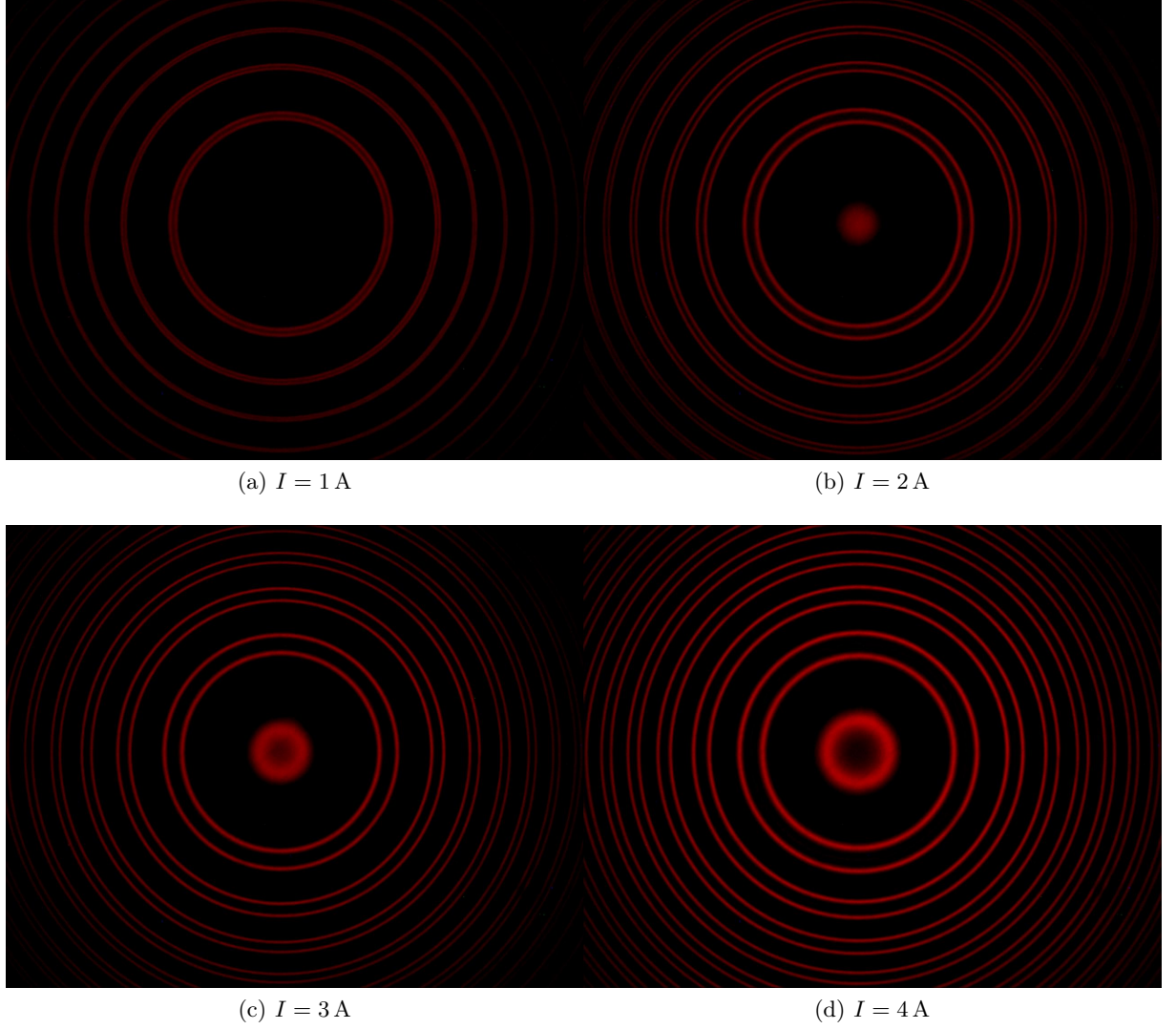


Figure 1: Split diffraction lines due to σ -transitions for different magnitudes of magnetic field

5 Discussion

6 Conclusion