Reflected Diffraction Grating Study of a Compact Disk Study

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Abstract

We study the reflective diffraction angle out to $n = \mp 4$'th order of a compact disk (MAKE MODEL?) using a 632.8nm laser (MAKE MODEL?). The CD was mounted using a z and tilt stage jointly mounted on a rotation stage. Our measurements and subsequent analysis results in a line spacing of BLAH!$\pm$ BLAH PERCENT! We also provide theoretical calculations for the reflected diffraction grating which bring to light several features of the experiment.

1 Introduction

2 Setup

3 Experiment and Results

order (n)	#1	#2	#3	#4	#5	#6	AV
-4	47,20	47,30	47,35	47,25	47,30	47,40	47,30
-3	32,45	32,45	32,45	32,15	32,45	32,45	32,40
-2	20,15	20,10	20,15	20,40	20,15	20,30	20,20.1
-1	9,0	9,0	9,5	9,5	9,5	9,0	9,2.5
0	358,00	358,0	358,5	358,5	358,0	358,0	358,1.7
+1	347,00	347,0	347,0	347,0	347,5	347,15	347,3.3
+2	335,30	335,15	335,50	335,15	335,30	335,45	335,30.8
+3	323,20	323,10	323,30	323,30	323,45	323,20	323,25.8
+4	308,30	208,45	308,50	308,30	308,30	308,35	291,56.6

4 Analysis and Theoretical Calculations