

# 次波長光子元件之全域優化設計與其磁光特性 量測之初步探討

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本論文主要重點放在次波長光子元件的設計與優化。我們以模擬器來模擬光子元件的特性，並藉由全域優化的方式來設計並優化我們的元件。再論文中我們提出新的四種光學元件的設計，並證明我們的光學元件比起傳統的元件有更多的優點；例如：體積小，低能源損耗，較好的工作效率或較大的工作範圍等。另外，在論文的最後我們我們也對磁光克爾效應做了一些初步的探討。

# **Global Optimization Design and Preliminary Exploration of the Magneto-Optical Characteristics of Sub Wavelength Photonic Devices**

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In this thesis we demonstrate how to design and optimize subwavelength photonic devices. We calculate characteristics of our devices by simulator. Then, we design and optimize them by using global optimization solver. Four newly designs of optics are described. Besides, we also point out the advantages of our devices. In the end of this thesis we also do the preliminary experimental exploration for the magneto-optical kerr effect ◦

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# CONTENTS

1. Introduction .....	1
2. Global Optimization Methodologies.....	4
2.1 Local Search and Global Search.....	4
2.2 Global Search Methods.....	5
2.2.1 Global Adaptive Random Search .....	5
2.2.2 Multi-Start Global Random Search.....	7
2.2.3 Branch and Bound Search Method .....	8
2.3 Test Run.....	10
2.3.1 Branch and Bound Search Method.....	12
2.3.2 Global Adaptive Random Search.....	14
2.3.3 Multi-Start Global Random Search.....	16
2.3.4 Summary of This Section.....	17
2.4 Bench mark Test Run with Fresnel Lens.....	18
2.4.1 Fresnel Lens.....	18
2.4.2 Cost Functions and Global Optimization Algorithms .....	19
2.4.3 Summary of This Section. ....	21
3. Global Optimization Design of Sub-Wavelength Photonic Devices.....	22
3.1 Compact MMI for two-wavelength DeMux of Ethernet Passive Optical Network (PON) Application.....	23

3.1.1 Introduction.....	23
3.1.2 Theory.....	23
3.1.3 Optimal Design of MMI DeMux.....	25
3.1.4 Discussion.....	27
3.1.5 Summary of This Section.....	31
3.2 Aperiodic Layered Grating Structure for Broadband Polarization Beam Splitting.....	33
3.2.1 Introduction.....	33
3.2.2 Theory.....	33
3.2.3 Device Design and Optimization.....	35
3.2.4 Discussion.....	38
3.2.5 Summary of This Section.....	39
3.3 Compact Z-taping Structure for Low Loss Input/Output Light Coupling into Photonic Integrated Circuit Chips with High Index Contrast.....	40
3.3.1 Introduction.....	40
3.3.2 Device Design and Optimization.....	42
3.3.3 Discussion.....	43
3.3.4 Summary of This Section.....	45
3.4 UV LED-excited Phosphor White Light Generator with Omni-reflector.....	46
3.4.1 Introduction.....	46
3.4.2 Device Design and Optimization.....	48
3.4.3 Discussion.....	52
3.4.4 Summary of This Section.....	54

4.Preliminary Experimental Exploration for Magneto-Optical Characteristic of

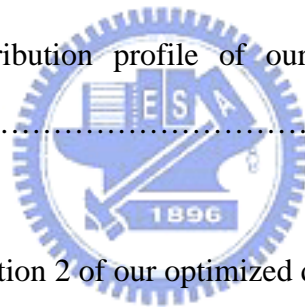
Sub-wavelength surface Plasmon Photonic Structures.....	55
4.1 Introduction.....	56
4.2 Theory.....	56
4.3 Auto-balanced detector.....	58
4.4 Experimental Setup and Result.....	63
4.5 Summary.....	68
5. Conclusion.....	70
Reference.....	72



# LIST OF FIGURES

<b>2.1:</b> Flow chart of a typical random search method. ....	6
<b>2.2:</b> GARS can decrease the distance between $x^k$ and $x^*$ as the iteration number increases, and the searching region is accordingly reduced. ....	7
<b>2.3:</b> Flow chart of multi-start based global random search. ....	8
<b>2.4:</b> Flow chart of branch and bound search method. ....	9
<b>2.5:</b> A feasible set is split into parts in Branch and Bound search method. ....	9
<b>2.6:</b> (a) 3D and (b) contour plot of the test run function $f(a, b)$ . ....	11
<b>2.7:</b> Dynamic searching behavior of branch and bound method. ....	12
<b>2.8:</b> Dynamic searching behavior of global adaptive random search. ....	14
<b>2.9:</b> Dynamic search behavior of multi-start random search. ....	16
<b>2.10:</b> diagram of a fresnel lens. ....	19
<b>3.0.1:</b> Flow chart of global optimization design of subwavelength photonic devices. ....	22

<b>3.1.1:</b> A periodic field distribution in a MMI device. The light is incident from the left side of the device. ....	24
<b>3.1.2:</b> Schematic showing the MMI device configuration of our design.....	26
<b>3.1.3:</b> Field distribution of our optimal device at wavelength of (a) $1.3 \mu m$ , and (b) $1.5 \mu m$ . ....	26
<b>3.1.4:</b> Field profile in section 1 of our device with wavelength of (a) $1.3 \mu m$ , and (b) $1.5 \mu m$ . ....	28
<b>3.1.5:</b> Transverse field distribution profile of our device at the position of $z = L_x/2$ . ....	29
<b>3.1.6:</b> Field distribution in section 2 of our optimized device with the wavelength of (a) $1.3 \mu m$ and (b) $1.5 \mu m$ .....	30
<b>3.1.7:</b> Performance of the MMI demultiplexer as a function of the length of section 2 with other parameters fixed. ....	31
<b>3.1.8:</b> Performance of the MMI demultiplexer as a function of the width of $w_2$ with other parameters fixed. ....	31
<b>3.2.1:</b> Form birefringence of thin parallel plates with $t_1$ and $t_2$ smaller than the wavelength of light. ....	34





**3.2.2:** Schematic diagram of a subwavelength grating-based PBS.....35

**3.2.3:** Field distribution in our PBS design at wavelength of  $1.3 \mu m$  . .....37

**3.2.4:** Comparison of the performances of our PBS design and a device with periodic layered structure. The wavelength of incident light is assumed to vary from 1.0 to  $1.7 \mu m$  . .....38

**3.2.5:** Reflectance spectra of periodic layered structures with a pair thickness of 0.29, 0.37, and  $0.45 \mu m$  , respectively. The high reflectance ranges for the three structures stacked together can add to form a broad range of operation from 0.9 to  $1.7 \mu m$  . .....38

**3.2.6:** Fabrication tolerance of our device. ....39

**3.3.1:** Schematic diagram showing (a) a lateral taper and (b) a vertical taper. ....40

**3.3.2:** Coupling between single mode fibers and a waveguide. ....41

**3.3.3:** Mode field profiles of a nanometer-size waveguide and a single mode fiber. The field profile expansion from the nanometer-size waveguide produces a large mode profile which is similar to that of a single mode fiber. ....41

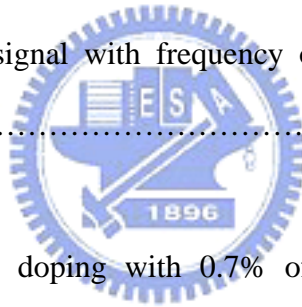
**3.3.4:** Vertical taper with a third-order polynomial profile obtained by global optimization solver to maximize the transmission efficiency. The transmittance is 91.9% and the taper length is only  $19.6 \mu m$  . .....43



<b>3.3.5:</b> Linear tapered waveguide with transmittance of 81.5% and taper length of 29.4 $\mu m$ . . . . .	43
<b>3.3.6:</b> Optical ray in a linear tapered waveguide. . . . .	44
<b>3.3.7:</b> Optical ray path in the third- order polynomial taper. . . . .	44
<b>3.3.8:</b> The transmittance of our device with different coefficient value. . . . .	45
<b>3.4.1:</b> Schematic of our design. An omni-reflector is highly reflective for all incident angles and polarization states at the wavelength of 405 nm. The reflector must also be highly transmissive from 470nm to 700nm. . . . .	48
<b>3.4.2:</b> Transmittance of a traditional dielectric mirror is plotted as a function of incident angle. . . . .	49
<b>3.4.3:</b> Periodic stack of bi-layers, each bi-layer consisting of a high index and a low index dielectric layer. . . . .	49
<b>3.4.4:</b> Band structure of a periodic multilayered dielectric mirror. The hashed region is the photonic band gap. . . . .	50
<b>3.4.5:</b> The transmittance curves of the optimized omni-reflector for the LED light and the phosphor-generated light. . . . .	51

<b>3.4.6:</b> Calculated transmittance spectra of our omni-reflector design.....	52
<b>3.4.7:</b> The transmittance curves at wavelength of 405nm for the optimized and before-optimized omni-reflector.....	52
<b>3.4.8:</b> The transmittance curves at wavelengths of (a) 480, (b) 590, and (c) 650nm for the optimized and before-optimized omni-reflector. ....	53
<b>3.4.9:</b> Band structure of the optimized omni-reflector.....	53
<b>3.4.10:</b> Transmittance of the reflector for the wavelength of 405nm with different values of $h_1$ and $h_2$ . ....	54
<b>4.1:</b> (a) longitudinal (b) polar (c) transverse orientation of magneto-optical Kerr effect. ....	56
<b>4.2:</b> The longitudinal Kerr effect with incident light polarised in the S-Plane.....	57
<b>4.3:</b> Kerr rotation and Kerr ellipticity of the elliptically polarised light.....	58
<b>4.4:</b> Circuit diagram for the auto-balanced detector.....	59
<b>4.5</b> Experimental setup to demonstrate the cancellation of a large common mode signal. ....	60
<b>4.6</b> Cancellation ability of our detector. Signals are modulated by a chopper and detected by (a) a ordinary photodiode and (b) the auto-balanced detector. (c) The cancellation ability is dependent on the intensity ratio of reference and signal	

inputs. ....	61
<b>4.7</b> Schematic diagram of experimental setup which demonstrate the cancellation of experimental noise for small signal detection. ....	62
<b>4.8</b> (a) Applied electric field on liquid crystal cell. (b) Signal detected by ordinary photodiode. (c) Signal detected by auto-balanced detector. ....	63
<b>4.9</b> Schematic diagram of the experimental setup to measure the magneto-optical Kerr effect. ....	64
<b>4.10</b> (a) Variation of modulated intensity with variation of orientation of analyzer. (b) Intensity of modulated signal with frequency of $2\omega$ for different modulation depth. ....	66
<b>4.11</b> Hysteresis loop of ZnO doping with 0.7% of $\text{Co}^{2+}$ which is measured by MOKE. ....	67
<b>4.12</b> Static state measurement to compare the noise between ordinary photodiode and auto-balanced detector. ....	68



# LIST OF TABLES

<b>2.1:</b> Comparison between the algorithms with different iteration number. ....	20
<b>2.2:</b> Lowest iteration number required to gets the analytic solution for three cost functions with branch and bound method and global adaptive random search. ....	21
<b>3.1:</b> List of the optimized parameters for MMI DeMux. ....	27
<b>3.2:</b> Comparison between a traditional two-wavelength MMI DeMux and our new design. ....	32
<b>3.3:</b> List of the optimized parameters for aperiodic subwavelength grating PBS. ....	37

