

## Table of Contents

ABSTRACT .....	iv
ACKNOWLEDGEMENT .....	v
Table of Contents .....	vi
List of Table .....	x
List of Abbreviation .....	xi
Chapter 1 INTRODUCTION .....	1
1.1 Background .....	1
1.2 Problem Identification .....	2
1.3 Objective .....	2
1.4 Proposed Solution .....	2
1.5 Expected Results .....	2
Chapter 2 BASIC THEORIES .....	3
2.1 Classic DoA Estimation Algorithm .....	6
2.2 MVDR .....	6
2.3 Pulse Compression .....	7
<b>2.3.1 Linear Frequency Modulation (LFM)</b> .....	7
2.3.2 Non-Linear Frequency Modulation (NLFM) .....	9
2.3 Matched Filter .....	9
Chapter 3 MVDR MODIFICATION SCHEME WITH INPUTS CHIRP SIGNAL .....	11
3.1 Input Signal .....	12
3.2 Matched Filter .....	13
3.3 Phase Detector .....	17
3.4 MVDR .....	18
Chapter 4 SIMULATION AND ANALYSIS .....	20
<b>4.1 Four linear array antennas</b> .....	20
<b>4.2 Eight linear array antennas</b> .....	24
<b>4.3 Sixteen linear array antennas</b> .....	27
<b>4.4 The Accusation</b> .....	34
<b>4.5 The Resolution</b> .....	36
<b>4.6 Maximum Resolution of Modified MVDR</b> .....	42

<b>4.7 The Timing Processing</b> .....	44
<b>4.8 Verify the Simulation Result</b> .....	44
Chapter 5 SUMMARY AND SUGGESTION .....	46
5.1 Summary .....	46
5.2 Suggestion .....	46
REFERENCES.....	47
Appendix.....	49