CONTENTS

Page

ACKNOWLEDGEMENT I

SYNOPSIS II

CHAPTER I Introduction 1

CHAPTER II Mathematical Formulations 15

2-1 The One Boson Exchange Kaon-Nucleon (OBE) Potential Form. 15

2-2 Coordinates and Momenta for Kaon Nucleon in Relative and Center of Mass System. 17

2-3 Normalization of the Wave Functions. 18

2-4 Expansions of the Kaon and Nucleon Wave Functions. 20

2-5 Normalized Laugurre Polynomial. 23

2-6 Kaon-Nucleon and Kaon-Nucleus Potentials. 24

2-7 Relation between the potential and the phase shift. 27

2-8 The Elastic Differential Cross Section and the Total Cross Section. 29

2-9 The Meson Functions. 31

2-10 Parameterizations of the Meson Functions. 32

CHAPTER III Results and Discussion. 34

3-1 The Elastic Interaction Potentials. 34

3-2 The Elastic Differential Cross Section. 44

3-3 The Total Elastic Cross Section. 46

3-4 Conclusions. 58

REFERENCES. 60

ARABIC SUMMARY.