

CONTENTS

	Page
ABSTRACT.....	i
 CHAPTER 1. INTRODUCTION AND AIM OF THE WORK	
1.1. Introduction.....	1
1.2. Aim of the Work.....	4
 CHAPTER 2. THEORETICAL CONSIDERATIONS	
2.1. Ionization and Dissociation by Electron Impact.....	5
2.2. Ionization Near Threshold	8
2.3. Frank-Condon Principle	9
2.4. Quasi Equilibrium Theory (QET).....	10
2.5. Thermochemical Consideration.....	12
2.6. Metastable Ions.....	14
2.7. Energy Partitioning	15
 CHAPTER 3. METHODS OF DETERMINATION OF IONIZATION AND APPEARANCE ENERGIES	
3.1. Electron Impact Methods.....	18
3.1.1. The Retarding Potential Difference (RPD) Technique.....	19
3.1.2. Techniques Using Electron Energy Analyzers.....	20
3.1.3. The Analytical Methods.....	22
3.1.3.1. Derivative Methods.....	22
3.1.3.2. Energy Distribution Difference (EDD) Technique.....	25
3.1.3.3. Inverse Convolution Method.....	27
3.2. Photo Impact Techniques.....	32
3.2.1. Photoionization Technique.....	32
3.2.2. Photoelectron Spectroscopy (PES) Technique.....	33
3.2.3. Coincidence Techniques.....	34