

	<b>CONTENTS</b>	<b>PAGE(S)</b>
	<i>Preface</i>	<b>(i)-(iii)</b>
	<i>Acknowledgements</i>	
<b>CHAPTER I</b>	<b>INTRODUCTION</b>	<b>1-49</b>
	1.1 Introduction	<b>1</b>
	1.2 Shock Waves	<b>3</b>
	1.3 Small Amplitude Disturbances and the Development of the Shock	<b>4</b>
	1.4 Normal Gas Dynamic Shock	<b>9</b>
	1.5 Magneto- Gas - Dynamic Shocks	<b>20</b>
	1.6 Fundamental Equations of a Non-Ideal Gas	<b>22</b>
	1.7 Radiation Gas Dynamics	<b>25</b>
	1.8 Thermodynamic Equilibrium verses Local Thermodynamic Equilibrium	<b>30</b>
	1.9 Grey Body Approximation and Opacity Limited Fragmentation	<b>35</b>
	1.10 Two Phase Problem	<b>37</b>
	1.11 Concept of Self-Similarity	<b>40</b>
	1.12 Fourth Order Runge-Kutta Method	<b>43</b>
<b>CHAPTER II</b>	<b>SELF-SIMILAR SOLUTION OF SELF- GRAVITATING, MAGNETO-GAS- DYNAMIC SPHERICAL SHOCK WAVE PROPAGATING IN A ROTATING MEDIUM WITH RADIATION HEAT FLUX</b>	<b>50-69</b>
	2.1 Introduction	<b>50</b>
	2.2 Basic Equations and Boundary Conditions	<b>51</b>
	2.3 Similarity Solutions	<b>54</b>
	2.4 Solution of the Problem	<b>57</b>
	2.5 Results and Discussions	<b>60</b>
	Computer Program	<b>66</b>

<b>CHAPTER III</b>	<b>STUDY OF THE INFLUENCE OF RADIATION ENERGY AND PRESSURE IN CASE OF STRONG POINT EXPLOSION IN A SELF-GRAVITATING, MAGNETO-RADIATIVE MEDIUM WITH ZERO TEMPERATURE GRADIENT</b>	<b>70-92</b>
	3.1 Introduction	70
	3.2 Equations of Motion and Boundary Conditions	71
	3.3 Similarity Solutions	73
	3.4 Results and Discussions	76
	Appendix	80
	Computer Program	89
<b>CHAPTER IV</b>	<b>SHOCK WAVES GENERATED BY A PISTON MOVING IN A NON- IDEAL GAS IN THE PRESENCE OF A SELF-GRAVITATING, MAGNETIC AND ROTATING FIELD: ISOTHERMAL FLOW</b>	<b>93-114</b>
	4.1 Introduction	93
	4.2 Equations of Motion and Boundary Conditions	94
	4.3 Self-Similarity Transformation	98
	4.4 Results and Discussions	102
	Computer Program	111
<b>CHAPTER V</b>	<b>SIMILARITY SOLUTIONS OF A STRONG SHOCK WAVE PROPAGATION IN A MIXTURE OF A GAS AND DUSTY PARTICLES UNDER THE INFLUENCE OF MONOCHROMATIC RADIATION</b>	<b>115-137</b>
	5.1 Introduction	115
	5.2 Fundamental Equations and Boundary Conditions	117
	5.3 Similarity Solutions	120
	5.4 Numerical Results and Discussions	123
	Computer Program	135
	<b>BIBLIOGRAPHY</b>	<b>138-146</b>
	<b>PUBLICATIONS</b>	