

CONTENTS

Introduction	1
<i>William G. Chace</i>	

GENERAL PAPERS

Factors Affecting the Time to Burst in Exploding Wires . .	5
<i>Charles P. Nash and Clifford W. Olsen</i>	

Recent Contributions to the Macroscopic Analysis of Con- ducting Electromechanical Solids	15
<i>R. C. Geldmacher</i>	

A Hydrodynamic Explanation for the Anomalous Resistance of Exploding Wires	21
<i>Robert J. Reithel and J. H. Blackburn</i>	

Lower-Upper Bounds of Temperatures for Wires Exploded in a Vacuum	33
<i>Carl A. Rouse</i>	

The Electrical and Optical Properties of Rapidly Exploded Wires	37
<i>Francis H. Webb, Jr., Henry H. Hilton, Paul H. Levine, and Alvin V. Tollestrup</i>	

About Distances in the "Characteristic Pattern" of Exploding Wires	77
<i>Heinrich Arnold and William M. Conn</i>	

Exploding Wires as a Source of X Rays	87
<i>I. M. Vitkovitsky, P. P. Bey, W. R. Faust, R. Fulper, Jr. G. E. Leavitt, and J. D. Shipman, Jr.</i>	

Calorimetric Calibration of the Electrical Energy Measure- ment in an Exploding Wire Experiment	97
<i>D. H. Tsai and J. H. Park</i>	

Effects of Transmission Lines in Applications of Exploding Wires	109
<i>R. Carroll Maninger</i>	

SHOCK WAVES

Microwave Doppler Measurements of the Ionization Front in Cylindrical Shock Waves from Exploding Wires	127
<i>Donald L. Jones and Roger M. Gallet</i>	
Electrical Generation of Imploding Shock Waves	145
<i>R. S. Dennen and L. N. Wilson</i>	
Blast Waves Produced by Exploding Wires	159
<i>Koichi Oshima</i>	
Exploding-Wire-Driven Shock Waves	175
<i>G. L. Clark, J. J. Hickey, R. J. Kingsley, and R. F. Wuerker</i>	
Shock Waves from Exploding Wires at Low Ambient Densities	181
<i>F. D. Bennett and D. D. Shear</i>	

APPLICATIONS

The Use of Exploding Wires in the Study of Small-Scale Underwater Explosions	195
<i>R. R. Buntzen</i>	
Studies of Metal—Water Reactions by the Exploding Wire Technique	207
<i>Louis Baker, Jr., and Raymond L. Warchal</i>	
Pressure Environments Created by Wires Exploded in Water	225
<i>J. A. Kersavage</i>	
An Exploding Wire Hypervelocity Projector	235
<i>Victor E. Scherrer</i>	

EXPLODING FOILS

High-Speed Cinemicrographic Studies of Electrically Ex- ploded Metal Films	245
<i>L. Zernow, F. Wright, Jr., and G. Woffinden</i>	
Exploding Foils—The Production of Plane Shock Waves and the Acceleration of Thin Plates	263
<i>D. V. Keller and J. R. Penning, Jr.</i>	
Acceleration of Thin Plates by Exploding Foil Techniques	279
<i>A. H. Guenther, D. C. Wunsch, and T. D. Soapes</i>	
Aerosols from Exploding Wires	299
<i>F. G. Karioris, B. R. Fish, and G. W. Royster, Jr.</i>	
Author Index for Volumes 1 and 2	313
Subject Index for Volumes 1 and 2	315