

C O N T E N T S

INTRODUCTION

Foreword	
Marshall N. Rosenbluth	
<i>Institute for Fusion Studies, Austin, U. S. A.</i>	xi

Twenty Years of Plasma Physics at The International Centre for Theoretical Physics	
Brendan McNamara	
<i>Lawrence Livermore National Laboratories, U. S. A.</i>	xiii

MAGNETIC FUSION

First JET Results and its Prospects	
P. H. Rebut	
<i>JET Joint Undertaking, Abingdon, England</i>	3

Evolution of the Mirror Approach to Fusion: Some Conjectures	
Richard F. Post	
<i>Lawrence Livermore National Laboratories, Livermore, U. S. A.</i>	15

Stationary Reversed Field Pinch Profiles	
S. Ortolani	
<i>Istituto Gas Ionizzati del C. N. R., Padua, Italy</i>	75

Surface Erosion Due to High Fluence Helium Bombardment	
G. Mezey, F. Pászti, M. Fried, A. Manuaba, Gy. Vizkelethy, Cs. Hadju, E. Kótai	
<i>Central Research Institute for Physics, Budapest, Hungary</i>	95

Computational Plasma Physics and Supercomputers	
John Killeen, Brendan McNamara	
<i>Lawrence Livermore National Laboratories, Livermore, U. S. A.</i>	104

Some Nonlinear Effects of Radio Frequency Waves <i>W. B. Thompson, University of California, La Jolla, U. S. A.</i>	134	Earth, Jupiter, and Sun — Similarity of Plasma Transport Across the Cavity Boundaries <i>W. Macek, S. Grzędzielski Space Research Centre, Warsaw, Poland</i>	320
LASER FUSION AND LASER PLASMAS			
Cannonball Target Experiment with the GEKKO Laser System at ILE, Osaka <i>C. Yamanaka et al. Institute of Laser Engineering, Osaka, Japan</i>	163	On the Structure of Astrophysical Magnetic Fields <i>Robert Rosner Harvard-Smithsonian Center for Astrophysics, Cambridge, U. S. A.</i>	328
New Directions for Short-Wavelength Laser Fusion and High-Energy-Density Physics <i>R. L. McCrory, J. M. Soures, L. Goldman, M. Richardson, W. Seka, A. Simon, S. Skupsky, C. Verdon, B. Yaakobi Laboratory for Laser Energetics, Rochester, U. S. A.</i>	204	Nonlinear Temporal Modulation of Pulsar Radioemission <i>A. C. -L. Chian Instituto de Pesquisas Espaciais, São José dos Campos, Brazil</i>	337
New Applications of Laser Produced Plasmas <i>M. H. Key Rutherford Appleton Laboratory, England</i>	246	Stability Analysis of Self-Gravitating Magnetized Plasma Cloud <i>V. M. Cadež Institute of Physics, Beograd, Yugoslavia</i>	352
Excitation of Nonlinear Electron Plasma Waves and Particle Acceleration by Laser <i>P. Mulser, W. Schneider Institut für Angewandte Physik, Darmstadt, F. D. R.</i>	264		
Ponderomotive Effects and Parametric Instabilities in Collisionless Plasmas <i>Milos M. Škorić Boris Kidric Institute of Nuclear Sciences, Belgrade, Yugoslavia</i>	292		
SPACE AND ASTROPHYSICAL PLASMAS			
Magnetic Topology, Nonequilibrium, and Dissipation <i>E. N. Parker University of Chicago, U. S. A.</i>	305		