

CONTENTS

Opening Ceremony

Dr. M. Leiser (IAEA)	1
Prof. K. Husimi (House of Representative)	3
Mr. H. Ueki (Monbusho)	5
Prof. Y. Yamamura (Osaka University)	7
Prof. T. Miyajima (Nuclear Fusion Council)	8
Prof. K. Yamamoto (Plasma and Nuclear Fusion Society of Japan)	10
Prof. C. Yamanaka (Laser Society of Japan)	12
1) Inertial Confinement Fusion Research in Japan	
C. Yamanaka	13
2) The U.S. Inertial Fusion Program	
L. E. Killion	26
3) Basic Research Relevant to ICF in the Federal Republic of Germany and the Laser-Plasma Activities at MPQ-Garching	
S. Witkowski, H. Baumhacker, G. Brederlow, K. Eidmann, E. Fill, D. Lackner-Russor A. G. M. Masswinkel, J. Meyer-ter-Vehn, R. Sigel, C. Tsakiris, R. Volk and K. J. Witte	36
4) Canadian Research Related to Inertial Confinement Fusion	
A. J. Alcock, A. Ng and A. A. Offenberger	50
5) Development of High Power Laser System for Laser Fusion Research in the People's Republic of China	
Deng Ximing and Yu Wenyan	66
6) Laser Produced Plasma Experiments and Laser Devices at Kaliski Institute	
S. Denus and J. Wolowski	78
7) Report on Results in Australia	
a) On Some Basic Mechanisms for Inertial Confinement Fusion	
H. Hora, M. Batchelor, L. Cicchitelli, J. S. Elijah, A. K. Ghatak, M. P. Goldsworthy, D. A. Jones, G. W. Kentwell, P. Lalouis and R. J. Stening	92
b) Experiments on Very High Intensity Laser Interaction with Plasmas: Profile Modification; Second Harmonic Generation; Penumbra Imaging	
M. D. J. Burgess, R. Dragila, B. Luther-Davies, K. A. Nugent, A. Perry and G. J. Tallents	103
8) ICF-Related Work in Israel	
Z. Zinamcn	110
9) Status of Laser Fusion Studies and Projects in Argentina	
J. Gratton and C. F. Fontan	114
10) Frascati Activities in Laser-Matter Interaction	
A. Caruso	121

11) Laser Plasma Program of Brazil	
P. H. Sakanaka	135
12) Plasma Research in Sweden	
H. Wilhelmsson	138
13) ICF Research Programme of GDR	
W. Brunner	140
14) High Power Gas Laser Research in the Netherlands	
W. J. Witteman	142
15) Diagnostics of Laser-Irradiated Double-Shell Targets' Compression	
N. G. Basov, S. Denus, A. A. Erokhin, Yu. Farny, A. I. Isakov,	
A. A. Kologrivov, Yu. A. Merkuliev, W. Mroz, A. I. Nikitenko,	
A. A. Rupasov, A. S. Shikanov, G. V. Sklizkov, E. Voryna,	
E. Wolowski and Yu. A. Zakharenkov	162
16) Diagnostics of High-Aspect Targets' Compression at "DELFIN-1" Installation	
N. G. Basov, S. I. Chebotarev, A. E. Danilov, S. I. Fedotov,	
A. A. Galichy, M. P. Kalashnikov, Yu. A. Mikhailov, T. F. Nikitina,	
M. V. Osipov, A. V. Rode, A. A. Rupasov, A. S. Shikanov,	
G. V. Sklizkov and Yu. A. Zakharenkov	169
17) Applications of Terawatt Pulse Generators Fusion Research	
L. I. Rudakov	176
18) Inertial Fusion Research at the University of Rochester: Progress in Direct Drive	
R. L. McCrory	188
19) The NRL Laser Fusion Program	
S. E. Bodner	206
20) Hot Electron in CO ₂ Laser Implosion	
S. Nakai, H. Daido, K. Terai, M. Fujita, H. Fujita, K. Sawai,	
H. Nishimura, T. Yabe, K. Mima and C. Yamanaka	221
21) Shell Target Compression under Long Wavelength Laser Radiation	
V. B. Rozanov	240
22) Recent Results of Cannonball Target Implosion Research	
K. Nishihara and C. Yamanaka	241
23) The Lawrence Livermore National Laboratory Inertial Fusion Program	
J. F. Holzrichter	259
24) A Review of the Antares Laser Fusion Facility	
H. Jansen	284
25) Target Fabrication at KMS	
T. M. Henderson	299
26) Light Ion Beam Fusion Research at Sandia National Laboratories	
G. Yonas	307
27) Present Status of the Research Works on Advanced Lasers at the Institute for Laser Science, UEC	
H. Takuma and Ken'ichi Ueda	324

28) The Heavy Ion Fusion Programme of the Federal Republic of Germany R. Bock	338
29) Theoretical and Experimental Study on Magnetically Guided Liquid Metal Flow in Inertial Fusion Reactor T. Iizuka and K. Miya	353
30) ICF Research Program in Spain G. Velarde, J.M. Aragoes, R. Arroyo, J. A. Gago, J. J. Honrubia, F. M. Fanegas, J. M. Martinez-Val, E. Minguez, J. L. Ocana, J. J. Pena, J. M. Perlado, J. M. Santolaya and J. F. Serrano	380
 Poster Session	
P-1) The Interaction of Charged Particle Beams with Matter Z. Zinamon and E. Nardi	391
P-2) Transport Properties of High Density Deuterium T. Ariyasu and K. Inoue	405
P-3) Researches on Short-Wavelength Laser Fusion at ETL, Tsukuba M. Tanimoto, T. Kasai, I. Matsushima, T. Ohwadano, K. Koyama, A. Yaoita, T. Tomie, I. Okuda, Y. Matsumoto, F. Nemoto and M. Yano	416
P-4) Comparative Studies on HF/KrF Lasers as Candidates of ICF T. Fujioka	427
P-5) Low-Pressure Operation of KrF Laser for ICF T. Fujioka, M. Obara, F. Kannari and A. Suda	443
P-6) Fabrication of Large Size KDP Crystal T. Sasaki, A. Yokotani, H. Koide, S. Ikezoe, T. Yamanaka and C. Yamanaka	453
P-7) URA Camera for X-Ray and Particle Imaging M. Yamanaka	468
P-8) High Speed Neutron Streak Camera H. Niki	478
P-9) Free Electron Laser Studies at ILE, Osaka T. Taguchi and N. Ohigashi	486
P-10) Proposal of LIB ICF System and Related Problems to be Solved in Theory K. Niu	498
P-11) Direct Energy Input through Micro-MITL for Inertial Confinement Fusion J. Mizui, T. Tajima, M. Sato, H. Yonezu, K. Ikuta and A. Mohri	506
P-12) Repetitive High Voltage Impulse Systems J. Irisawa, H. Kumazaki, S. Takano and S. Imazu	517
P-13) Studies of Laser Fusion Reactor Design S. Ido	525
P-14) Recent Progress in the Studies of X-Ray Generation from Pico-Second Laser-Produced Plasmas and the Development of a High Power Glass Laser System H. Kuroda and N. Nakano	537

P-15) KrF Laser Studies in ILS, UEC	
K. Ueda and H. Takuma	550
P-16) Cryogenic Extraction Diode and Laser Channel Initiation Experiments at TIT, Yokohama	
K. Kasuya, K. Horioka, T. Takahashi, H. Tamura, M. Hijikawa and H. Yoneda	559
 Workshop	
Driver I	
A. A. Offenberger and Y. Kato	571
Driver II	
R. N. Sudan and K. Imasaki	577
Direct Drive Implosion	
S. Bodner and K. Mima	588
Implosion II	
H. Hora and T. Mochizuki	593
Diagnostics	
P. H. Sakanaka and T. Yamanaka	600
Target Fabrication	
T. Henderson and Y. Izawa	604
ICF Reactor Design	
K. Niu	607
Summary of Workshop	
G. Yonas	609
 Summary	
S. E. Bodner	633
M. Leiser	634
 Closing Remarks	
C. Yamanaka	640