

CONTENTS

PREFACE	i
CONTENTS	iii
ORGANIZATION OF LASTI	iv
CURRENT STATUS OF NewSUBAR	
<i>NewSUBARU Storage Ring</i>	1
<i>Beamlines</i>	4
<i>Upgrade of control system of the NewSUBARU accelerator</i>	9
<i>Energy saving activities at the NewSUBARU synchrotron radiation facility</i>	11
<i>Stabilization of NewSUBARU synchrotron radiation source</i>	13
<i>Bunch Current Monitor</i>	15
<i>New Visible Light Extraction Ports for Beam Diagnostics</i>	16
<i>Injection bump waveform monitor at the NewSUBAR</i>	17
<i>Development of knowledge systems for operating NewSUBARU accelerato</i>	19
RESEARCH ACTIVITIES	
<i>Several-MeV gamma-ray generation at NewSUBARU by laser Compton backscattering</i>	21
<i>Measurements of Flux of Laser Compton Scattering Gamma Ray Photons Generated in BL01</i>	23
<i>Characteristics of EUV light and ion emissions from a micro lithium target</i>	25
<i>Mitigation effect of plasma debris from cryogenic xenon target by argon buffer gas</i>	27
<i>PTFE Processing Characteristics of High-energy X-ray and Application to a bio-microdevice</i>	29
<i>High density cell culture using micro 3D scaffold With capillary bundle structure</i>	31
<i>Fabrication of electrodes for multiplex neural interface</i>	33
<i>Cross-linked capillary micromixer for high-sensitive immunoassay</i>	35
<i>Resolution enhancement of EUV microscope using an EUV beam splitter</i>	37
<i>Dual grating interferometric lithography for 22-nm node</i>	39
<i>Pattern Replication in EUV Interference Lithography</i>	41
<i>Optimization of photo acid generator in the PAG-bonded resist</i>	46
<i>Mitigation of Low LER with PAG Bonded Resist for EUVL</i>	48
<i>SR irradiation effect of high-hydrogenated DLC thin films in the soft X-ray region</i>	52
<i>Structural Changes in the DLC Films Fabricated using Ga Focused Ion Beam Assisted Deposition by Heat Treatment</i>	54
<i>Atomic Movement in a-Si Film by Soft X-ray irradiation</i>	56
<i>Opening of Material Analysis Beamline at BL-5 for Industrial Enterprises</i>	58
<i>Photoemission study of the Au-SrTiO₃(100) surface</i>	60
<i>Effect of Al content on structure of native oxide films on Zn-Al Alloys formed in atmosphere</i>	62
<i>Surface Reduction in Silica Waveguide Films Irradiated by Synchrotron Radiation</i>	64
<i>Inhibition of Carbon Deposition on the Multilayer Mirror Surface by Introducing Water Vapor</i>	66
<i>Analysis of carbon deposition on multilayer mirrors by using two different beamlines</i>	68
<i>Improvement of EUV-mirror reflectance measurement stability on Beamline 9 of NewSUBARU</i>	72
<i>Electronic State Analysis of Minor Elements in Ultra-fine Grained Metallic Materials</i>	74
<i>Soft X-ray Absorption Spectra of TiO₂ Thin Films Prepared by Magnetron Sputtering Technique</i>	76
<i>Development of a Soft X-ray Emission Spectrometer</i>	78
<i>Fabrication of Narrow Pitch and High Aspect Ratio Microcoils for Electromagnetic Microactuators</i>	80
<i>Fabrication of X-ray Grating Using X-ray Lithography Technique for X-ray Phase Imaging</i>	82
<i>Fabrication of Micro Capacitive Inclination Sensor by Resin Molding</i>	84
<i>Fabrication of Ultraviolet Range Light Guide Plate</i>	86
<i>Fabrication of the 3 Dimension Resist Microstructure Using X-ray Diffraction and Applying to LIGA Process</i>	88
LIST OF PUBLICATIONS	
<i>Papers</i>	91
<i>International Meetings</i>	97
<i>Awards</i>	103
ACADEMIC DEGREES	105
EDITORIAL BOARD	106