

CONTENTS

PREFACE	i
CONTENTS	iii
ORGANIZATION	v
CURRENT STATUS OF NewSUBARU	
<i>NewSUBARU Storage Ring</i>	1
<i>Beamlines</i>	3
<i>Center for EUV Lithography</i>	9
<i>Study on High Brightness Operation of NewSUBARU without RF Shaker</i>	11
RESEARCH ACTIVITIES	
<i>Upgrade Plan of 15MeV Compact Electron Linear Accelerator LEENA as a Terahertz Radiation Source</i>	13
<i>Photonuclear reaction of iodine-129 with laser-Compton scattering gamma-ray</i>	15
<i>Determination of the number of pulsed laser-Compton scattering photons</i>	17
<i>Resonant Photonuclear Reactions for Isotope Transmutation</i>	21
<i>Soft X-ray Source by Laser Produced Xe Plasma</i>	27
<i>Characterization of a laser-plasma extreme-ultraviolet source using a rotating cryogenic Xe target</i>	29
<i>Soft X-Ray from Laser-Produced Xe and Sn Plasmas in a Wide Wavelength Range</i>	31
<i>Study on Powder Transport Using Surface Acoustic Wave Actuator</i>	33
HIGH-SENSITIVE DETECTION OF POLYCHLORINATED BIPHENYL	
<i>ON THREE-DIMENSIONAL LAB-ON-A-CD</i>	35
<i>Fabrication of Integrated Magneto Impedance Sensor for Medical Monitoring</i>	37
<i>Fabrication of Gold Nanoparticles Assembled Nanovalleyfor Surface Enhanced Raman Scattering</i>	39
<i>Coherent Scatterometry Microscope (CSM)</i>	41
<i>EUV Finished Mask Observation utilizing EUV Microscope</i>	42
<i>EUV Interference Lithography</i>	43
<i>In-situ contamination thickness measurement in the EUV resist outgassing environment</i>	44
<i>Optical element evaluation system</i>	45
<i>Classification of Near-Edge X-ray Absorption Fine Structure Spectra of Si-containing DLC Thin Films</i>	46
<i>Sulfur L_{3,2}-edge XANES spectroscopy reveals differences in sulfur speciation of reference S compounds</i>	48
<i>The Present Status of Material Analysis Beamline at BL05 for Industrial Enterprises</i>	49
<i>Low-Temperature Crystallization of a-Si, a-Ge and a-SiGe Films by Soft X-ray Irradiation</i>	51

<i>Photoelectron Spectroscopy Study of the Valence Band Region in Diamond-Like Carbon Thin Films</i>	52
<i>Characterization of Crystalline Structure of BN Thin Film using Soft X-ray Absorption Spectroscopy</i>	54
<i>Modification of Electronic States of Multi-walled Carbon Nanotubes by Ion Irradiation</i>	56
<i>Damage analysis of gallium nitride crystals etched by He and Ar plasma</i>	58
<i>A Development Plan of Sputtering System for Large Scale Telescope Mirror Coating at Nishi-Harima Astronomical Observatory</i>	60
<i>Fabrication of Carbon Membrane X-ray Mask for Deep X-ray Lithography Technique</i>	62
<i>Fabrication of Au Structure Using Direct Electroplating on Si Structures</i>	64
<i>Fabrication of High Performance Light Guide Plate</i>	66
<i>Technique for Preparing Defect-free High Aspect Ratio SU-8 Resist Structure Using X-ray Lithography</i>	68

LIST OF PUBLICATIONS

<i>Papers</i>	71
<i>International Meetings</i>	76
<i>Award</i>	83
ACADEMIC DEGREES	85
EDITORIAL BOARD	86