



- ① M. Sakai
- ② R. Tasaki
- ③ A. Ueda
- ④ S. Nagahashi
- ⑤ H. Sawa
- ⑥ Y. Tanimoto
- ⑦ A. Mishina
- ⑧ T. Iwazumi
- ⑨ T. Takahashi
- ⑩ Y. Miyata
- ⑪ S. Sakanaka
- ⑫ Y. Uchida
- ⑬ N. Igarashi
- ⑭ R. Kato
- ⑮ T. Mitsunashi
- ⑯ K. Kojo
- ⑰ Y. Azuma
- ⑱ S. Yamamoto

- ⑲ Y. Kitajima
- ⑳ T. Kikegawa
- ㉑ I. Gaponov
- ㉒ T. Zeniya
- ㉓ A. Koyama
- ㉔ T. Kikuchi
- ㉕ Y. Kobayashi
- ㉖ K. Hirano
- ㉗ S. Obara
- ㉘ Y. Yamada
- ㉙ Y. Hori
- ㉚ S. Asaoka
- ㉛ K. Hyodo
- ㉜ H. Toyama
- ㉝ T. Aoki
- ㉞ K. Umemori
- ㉟ T. Honda
- ㊱ T. Nogi

- ㊲ M. Inoue
- ㊳ M. Kawasaki
- ㊴ M. Toda
- ㊵ S. Hiramoto
- ㊶ T. Shiba
- ㊷ F. Mori
- ㊸ T. Nakagawa
- ㊹ M. Hiraki
- ㊺ Y. Miyauchi
- ㊻ S. Isoyama
- ㊼ S. Takano
- ㊽ C. Pak
- ㊾ K. Haga
- ㊿ Y. Hikosaka
- ㊽ K. Sasajima
- ㊽ T. Kurihara
- ㊽ K. Kusaka
- ㊽ M. Tanaka

- ㊽ K. Nasu
- ㊽ Y. Saitoh
- ㊽ T. Kosuge
- ㊽ K. Harada
- ㊽ T. Nogami
- ㊽ T. Aoto
- ㊽ K. Ito
- ㊽ T. Fujita
- ㊽ K. Mase
- ㊽ T. Miyajima
- ㊽ T. Kasuga
- ㊽ K. Ohmi
- ㊽ K. Ohsumi
- ㊽ T. Matsushita
- ㊽ T. Toki
- ㊽ M. Kobayashi
- ㊽ M. Nomura
- ㊽ M. Nakatake

Editorial

This is the 19th volume of the Photon Factory Activity Report, which covers the period April 2001-March 2002, corresponding to Japanese fiscal year 2001. The PF Activity Reports have been divided into two parts since the 15th volume, as is this volume. PART-A summarizes the scientific highlights, the newly developed experimental facilities including beamlines and experimental apparatus, and the research and development studies on accelerators, together with the description of the outline and organization of the PF, and a list of publications. PART-B presents a number of users' short reports, the most important activity at the PF, with a list of experimental proposals approved by the PF Program Advisory Committee, which are effectual during the above-mentioned period.

Since the last volume of the PF Activity Report, all of the contents are available on the website of the PF (<http://pfwww.kek.jp>). Following the contemporary trend of electronic publishing, we have decided to publish the Activity Report on a CD-ROM. However, PART-A is published also in book form, and is distributed to the libraries in related universities and institutes all over the world. We would appreciate you understanding that we make considerable savings by presenting PART-B in a CD-ROM and on the website.

Finally, we would like to express our deep gratitude to those who have contributed to this volume.

Kenji ITO, Editor-in-Chief

CONTENTS

INTRODUCTION

Introduction T. Matsushita	1
----------------------------------	---

HIGHLIGHTS

1. Atomic and Molecular Science	5
2. Chemistry.....	8
3. Surfaces and Interfaces	11
4. Electronic Structure of Condensed Matter	14
5. Materials Science	16
6. Crystallography	20
7. Biological Science I.....	24
8. Biological Science II	27
9. Imaging	33
10. Instrumentation and Technique	38
11. Theory	40

EXPERIMENTAL FACILITIES

1. Summary of Experimental Stations	47
2. Reconstruction and Upgrading of Beamlines	58
3. New Experimental Facilities and Apparatus	64
4. Activities of the Structural Biology Group, Present and Future	69

ACCELERATORS

1. Machine Operation	77
2. PF-AR Upgrading Project	81
3. Research and Developments at the PF Storage Ring	90
4. Specifications of the Accelerators	93

PROGRAMS

1. Experimental Programs	99
2. Educational Programs	101
3. International Collaboration	102

APPENDICES

1. Site and Organization	104
2. List of Workshops and Seminars	111
3. List of Publications	112