



SOON TO BE PUBLISHED

SPring-8 Research Frontiers 2002B/2003A will be published in August.
<http://www.spring8.or.jp/el/publication-e.html>

TOP-UP OPERATION STARTED IN MAY

http://www.spring8.or.jp/el/for_users-e.html

Beamlines at SPring-8

- BL01B1 XAFS
- BL02B1 Single Crystal Structure Analysis
- BL02B2 Powder Diffraction
- BL04B1 High Temperature and High Pressure Research
- BL04B2 High Energy X-ray Diffraction
- BL05SS Accelerator Beam Diagnosis
- BL08W High Energy Inelastic Scattering
- BL08B2 Hyogo BM
- BL09XU Nuclear Resonant Scattering

BL10XU High Pressure Research

- BL11XU JAERI Materials Science II
- BL12XU NSRRC ID
- BL12B2 NSRRC BM
- BL13XU Surface and Interface Structures
- BL14B1 JAERI Materials Science I
- BL15XU WEBRAM
- BL16XU Industrial Consortium ID (SUNBEAM-ID)
- BL16B2 Industrial Consortium BM (SUNBEAM-BM)
- BL17SU RIKEN Coherent Soft X-ray Spectroscopy
- BL19LXU RIKEN SR Physics
- BL19B2 Engineering Science Research
- BL20XU Medical and Imaging II
- BL20B2 Medical and Imaging I
- BL22XU JAERI Actinide Science II
- BL23SU JAERI Actinide Science I
- BL24XU Hyogo ID
- BL25SU Soft X-ray Spectroscopy of Solid
- BL26B1 RIKEN Structural Genomics I
- BL26B2 RIKEN Structural Genomics II
- BL27SU Soft X-ray Photochemistry
- BL28B2 White Beam X-ray Diffraction
- BL29XU RIKEN Coherent X-ray Optics
- BL32B2 Pharmaceutical Industry
- BL33LEP Laser-Electron Photon
- BL35XU High Resolution Inelastic Scattering
- BL37XU Trace Element Analysis
- BL38B1 R&D (3)
- BL38B2 Accelerator Beam Diagnosis
- BL39XU Magnetic Materials
- BL40XU High Flux
- BL40B2 Structural Biology II
- BL41XU Structural Biology I
- BL43IR Infrared Materials Science
- BL44XU Macromolecular Assemblies
- BL44B2 RIKEN Structural Biology II
- BL45XU RIKEN Structural Biology I
- BL46XU R&D (2)
- BL47XU R&D (1)

PENTAQUARK04:

The International Workshop, PENTAQUARK04, is scheduled for July 20-23, 2004 at SPring-8. <http://www.rcnp.osaka-u.ac.jp/~penta04/>

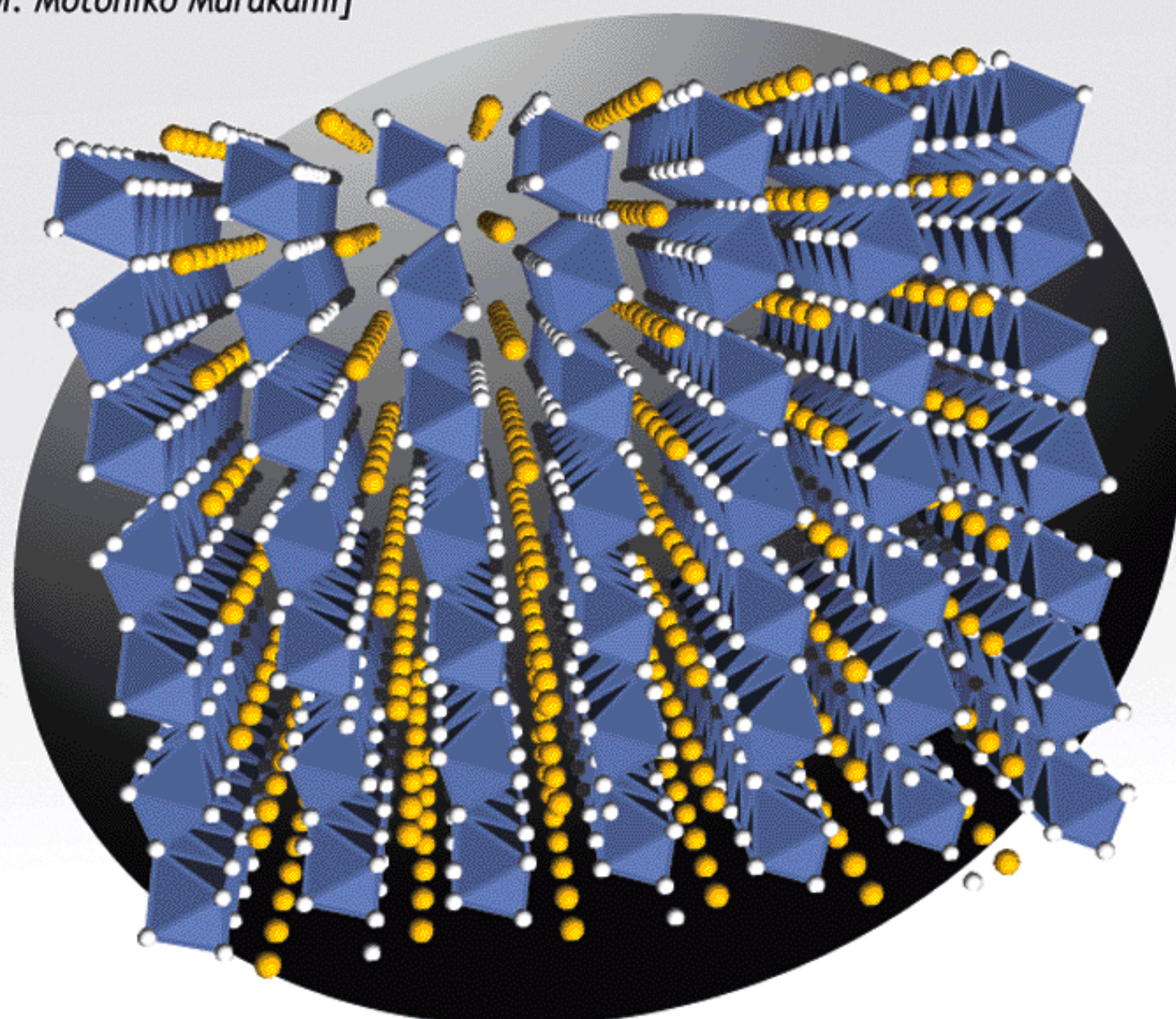
BSR 2004:

The 8th International Conference on Biology and Synchrotron Radiation, BSR2004, will be held at the Egret Himeji, Hyogo, Japan from 7th to 11th September 2004. <http://bsr2004.spring8.or.jp/>

CRYSTAL STRUCTURE OF EARTH'S LOWERMOST MANTLE MINERAL

Dr. Kei Hirose of Tokyo Institute of Technology and his collaborative research group discovered a new form of the mineral $MgSiO_3$, named "postperovskite," under the pressure and temperature conditions similar to so called "D" layer just above the Earth's core-mantle boundary, using the High Pressure Research Beamline BL10XU of SPring-8. Results demonstrate that the "D" layer is formed from "post-perovskite," and not from the perovskite as once believed.

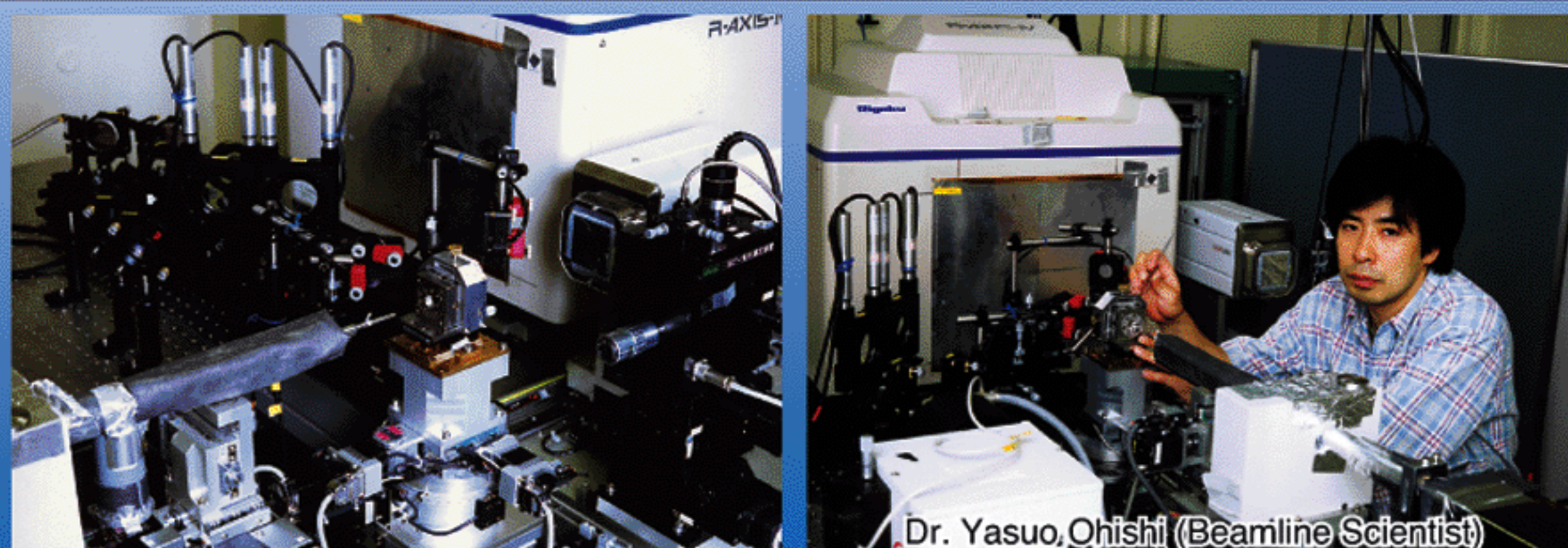
[Image: Dr. Motohiko Murakami]



HIGH PRESSURE RESEARCH BEAMLINE, BL10XU

The high pressure research beamline, BL10XU, is designed to perform the X-ray diffraction structure analysis under high-pressure and high/low temperature, using the high brilliance X-rays from the in-vacuum undulator. The sample placed in a DAC system which can generate the pressure up to 300 GPa, is irradiated with focused monochromatic X-rays (18-35 keV). The diffracted X-rays from the sample are detected by the Imaging Plate (IP) or X-ray CCD system. For the temperature control in the experimental station, a double-sided laser heating system is used in the range of 1000-3000 K, and a cryostat in the range of 10-300 K, respectively. Experiments conducted at the beamline are the structure analysis of superconductors and novel materials under pressure, studies of equation of states, structural phase transitions of light elements, molecular dissociation, phase transitions and decomposition of earth interior materials.

HIGH PRESSURE X-RAY DIFFRACTION MEASUREMENT SYSTEM WITH DIAMOND ANVIL CELL (DAC) INSTALLED AT THE HIGH PRESSURE RESEARCH BEAMLINE BL10XU



Dr. Yasuo Ohishi (Beamline Scientist)



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