



CALL FOR RESEARCH PROPOSALS

Call for 2005A proposals has been postponed due to typhoon damage.
For further information, please visit the following website:
http://www.spring8.or.jp/e/for_users-e.html

Call for Reserved Beamtime Proposals 2004B
for the Structural Biology Beamlines (BL41XU and BL38B1):
http://www.spring8.or.jp/e/user_info/c_f_prop-04b-e/res-bl41_38-04b-e.html

SPRING-8 RESEARCH FRONTIERS

SPring-8 Research Frontiers 2003 has been published.
Online request form is available at:
<http://www.spring8.or.jp/e/publication-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)

RADSYNCH'04:

The 3rd International Workshop on Radiation Safety of Synchrotron Radiation Sources, Radsynch'04, will be held at SPring-8 from November 17 to 19, 2004.
<http://radsynch04.spring8.or.jp/>

XRM2005:

The 8th International Conference on X-ray Microscopy, XRM2005, will be held at the Egret Himeji, Hyogo, Japan, from July 26 to 30, 2005.
<http://xrm2005.spring8.or.jp/>

Probe into Ancient Bronze Mirrors



M. Hirokawa of Sen-oku Hakuko Kan Museum in Kyoto, Dr. N. Umesaki of JASRI/SPring-8, and their collaborative research group performed a high-precision X-ray fluorescence analysis on silver (Ag) and antimony (Sb), trace constituents contained in ancient bronze mirrors, using the SPring-8 Engineering Science Research Beamline, BL19B2, to find clues about production sites of the mirrors. (This experiment was conducted as a priority research proposal under the Trial Use Program.)

While a number of analyses have been carried out to measure the content of main components of the mirrors such as copper or tin, the group went further to measure trace constituents; They measured Ag and Sb content of 95 ancient bronze mirrors made in China and in Japan, which are kept in the museum, and made a distribution map by the Ag and Sb content. The map shows that these bronze mirrors can be classified into four clusters by production site and period: 1. China, 3rd century BC; 2. China, 2nd century BC; 3. China, 1st century BC to 3rd century AD; 4. Japan, 3rd to 5th century AD.

The round bronze mirror called "Sankakuen-shinju-kyo," the back of which has a triangle-cross-sectional edge and is decorated with design of some deities and sacred animals (see picture), is worthy of special mention; All of the mirrors were unearthed in Japan but their origins have been unidentified. However, the experiment demonstrated that six of eight Sankakuen-shinju-kyo mirrors are classified into the Chinese origin (group 3 above) and the other two into the Japanese origin (group 4 above). The results imply that the Sankakuen-shinju-kyo mirrors have two or more origins providing important clues as to where and how they were produced.

Engineering Science Research Beamline, BL19B2

BL19B2 is a medium-length hard X-ray bending magnet beamline designed for engineering science research. This beamline aims to promote the use of synchrotron radiation among industrial users. The main techniques available on this beamline are: X-ray absorption, diffraction, scattering, and imaging; X-ray fluorescence analysis is also available.

Debye-Scherrer Camera



Ms. Akiko Kitano (Beamline Scientist)

Energy-dispersive X-ray Fluorescence Spectrometer

