

JRR-3 Users Office

User Support

JRR-3 (Japan Research Reactor-3) is a light-water moderated and cooled pool type reactor with a thermal output of 20 MW utilized for various neutron beam experiments and neutron irradiation. For neutron beam experiments, 17 instruments owned by JAEA are in operation. These instruments are used for structural determination of crystals and proteins, dynamical studies of materials, radiography, residual stress measurements, prompt gamma-ray analysis, etc. Most instruments are open to general users through “the Shared Use Program of JAEA Facilities”.

Preliminary consulting, experimental supports in human resources, using visitors room during experimental time with internet connection are available. Please contact us in advance to receive these services .



Visitors room



Counseling Office

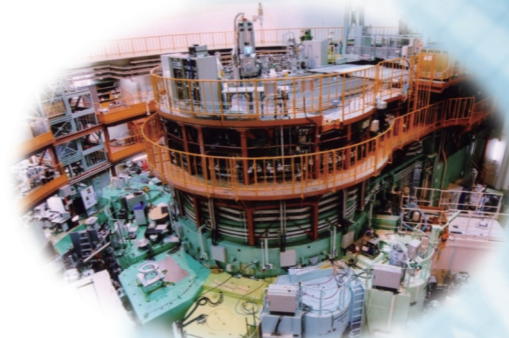
Contact

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Ooaza Shirakata 2-4, Tokai Village, Ibaraki, 319-1195 Japan

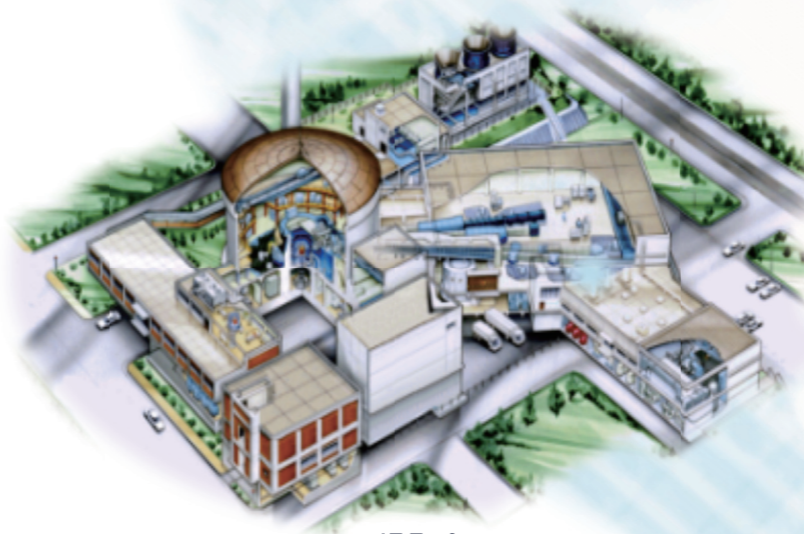
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E-Mail: jrr3-uoffice@jaea.go.jp URL: <http://jrr3uo.jaea.go.jp/>

MEXT Information for JRR-3 : <http://kyoyonavi.mext.go.jp/facility/show/72>



Reactor room



JRR-3



Beam hall

Neutron application

- ▶ Materials evaluation
- ▶ Devise properties evaluation
- ▶ Safety evaluation

Promotion of neutron application as a cutting-edge research & analysis tool



JRR-3 Users Office
Japan Atomic Energy Agency



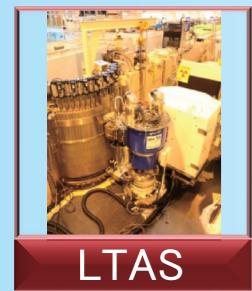
TAS-1

Triple-Axis-Spectrometer



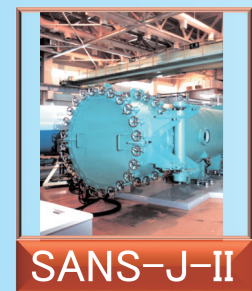
TAS-2

Triple-Axis-Spectrometer



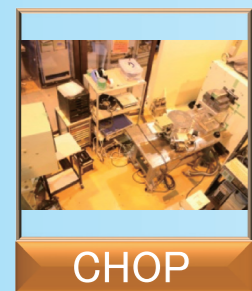
LTAS

Low Energy Triple-Axis Spectrometer



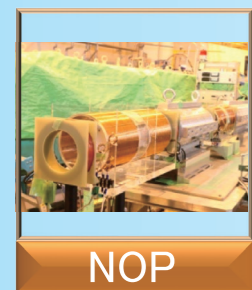
SANS-J-II

Small-Angle Neutron Scattering



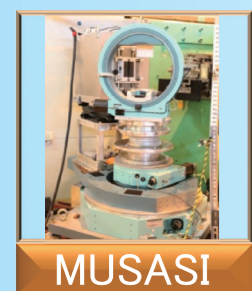
CHOP

Pulsed Neutron Instrument with Disk Chopper



NOP

Neutron Optics



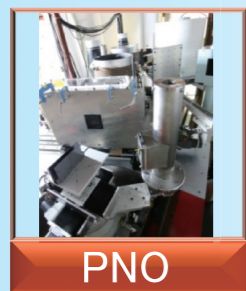
MUSASI

Multi-Purpose Thermal Neutron Application and Science



SUIREN

Reflectometer



PNO

Precise Neutron Optics

Devise properties evaluation

Analyses of the surface of materials are available by reflectometer, and structural analyses of macromolecules and multilayer films are available by small-angle scattering measurements.

It is available to perform characteristic evaluation of neutron detectors and optical devices, as well as proof examination for development of beam experimental instruments.

Dynamical behavior analysis

Laminated structure analysis

Characteristic examination of devices

Materials evaluation

Detailed analyses of crystal structure, including hydrogen atomic positions, are available for chemical substances and proteins.

Biological molecular and structural analysis

Neutron application

Imaging

Observation of the inside of a product and materials is possible in nondestructive manner. This is particularly useful for observation of hydrogen and the water inside products. Taking animation and tomogram is also available.

Powder structural analysis

Residual stress analysis

Elementary analysis

Multi-element analyses for products and materials are available in nondestructive manner. This is suitable for analyses of light-mass elements, such as hydrogen and boron.

Safety evaluation

Crystal structural analyses are available for powder materials that contain light-mass elements, such as hydrogen and lithium, which are difficult to be detected by x-rays.

Residual stress analyses are available by measuring the distortion deep inside the material, which is difficult to be measured by x-rays.



BIX-3

Diffractometer for Biological Crystallography



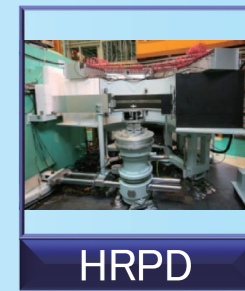
RESA-1

Engineering Diffractometer



BIX-4

Diffractometer for Biological Crystallography



HRPD

High Resolution Powder Diffractometer



PGA

Prompt-gamma Analysis



PN-3

Irradiation Facility for Activation Analysis



TNRF

Thermal Neutron Radiography Facility



CNRF

Cold Neutron Radiography Facility

