# X-Ray Beamline Guide

**Monochromator Legend**

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|---|---|
| CCM | Channel Cut Monochromator |
| DCM | Double Crystal Monochromator |
| DCCM | Double Channel Cut Monochromator |
| DMM | Double Multilayer Monochromator |
| ERG | Extended Range Grasshopper |
| INTFRMTR | Interferrometer |
| MLM | Multi-layer Monochromator |
| NIM | Normal Incidence Monochromator |
| PGM | Plane Grating Monochromator |
| SCM | Single Crystal Monochromator |
| SGM | Spherical Grating Monochromator |
| TGM | Torroidal Grating Monochromator |
| TSGM | Torroidal mirror Spherical Grating Monochromator |
| WB | White Beam |

**Beamline X1A1**

PRT Affiliations: Argonne National Laboratory, Brookhaven National Laboratory (NSLS), Lawrence Berkeley National Laboratory, North Carolina State University, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Microscopy
Detailed Research/Techniques: Soft x-ray imaging.
Energy Range: .25-.50 keV
Monochromator Type: SGM
General user allocation: 25%
Local contact: Sue Wirick, 631-344-5601, swirick@bnl.gov
Spokesperson: Chris Jacobsen, 631-632-8093, chris.jacobsen@sunysb.edu
Beamline Phone: 631-344-5601

**Beamline X1A2**

PRT Affiliations: Argonne National Laboratory, Brookhaven National Laboratory, Lawrence Berkeley National Laboratory, North Carolina State University, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Microscopy
Detailed Research/Techniques: Soft x-ray imaging.
Energy Range: .25-1 keV
Monochromator Type: SGM
General user allocation: 0%
Local contact: Sue Wirick, 631-344-5601, swirick@bnl.gov
Spokesperson: Chris Jacobsen, 631-632-8093, chris.jacobsen@sunysb.edu
Beamline Phone: 631-344-5601

**Beamline X1B**

PRT Affiliations: Boston University, Brookhaven National Laboratory (NSLS), Brookhaven National Laboratory (Physics), Fritz-Haber-Institut, University of Groningen,
Beamline Status: Operating
Primary Techniques: Softy X-ray Spectroscopy
Detailed Research/Techniques: Soft x-ray spectroscopy, fluorescence, and emission spectroscopies, soft X-ray coherent and incoherent scattering.
Energy Range: .1-1.6 keV
Monochromator Type: SGM
General user allocation: 25%
Local contact: Steven Hulbert, 631-344-7570, hulbert1@bnl.gov
Spokesperson: Peter Johnson, 631-344-3705, pdj@bnl.gov
Beamline Phone: 631-344-5701

**Beamline X2B**

PRT Affiliations: ExxonMobil Research and Engineering Co.
Beamline Status: Operating
Primary Techniques: X-ray Microtomography
Detailed Research/Techniques: X-ray microtomography of oil reservoir rock, polymer and catalysts.
Energy Range: 8-35 keV
Monochromator Type: SCM
General user allocation: 25%
Local contact: Steve Bennett, 631-344-4719, sbennett@bnl.gov
Spokesperson: John Dunsmuir, 908-730-2548, john.h.dunsmuir@exxonmobil.com
Beamline Phone: 631-344-5602

**Beamline X3A1**

PRT Affiliations: Alfred University, Amoco Corporation, SUNY @ Buffalo, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Crystallography
Detailed Research/Techniques: Short wavelength crystallography, diffraction and scattering Technique-Single crystal diffraction at He temperatures.
Energy Range: 31 keV, 19 keV
Monochromator Type: SCM
General user allocation: 25%

Local contact: Lynn Ribaud, 716-645-6800,x2218, ribaud@bnl.gov
Spokesperson: Philip Coppens, 716-645-6800/2217, coppens@acsu.buffalo.edu
Beamline Phone: 631-344-5603

**Beamline X3A2**

PRT Affiliations: Alfred University, Amoco Corporation, SUNY @ Buffalo, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Diffractometry
Detailed Research/Techniques: Diffractometry, x-ray spectroscopy, scattering, crystallography, small angle scattering.
Energy Range: 6-30 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Lynn Ribaud, 716-645-6800,x2218, ribaud@bnl.gov
Spokesperson: Philip Coppens, 716-645-6800/2217, coppens@acsu.buffalo.edu
Beamline Phone: 631-344-5603

**Beamline X3B1**

PRT Affiliations: Alfred University, Amoco Corporation, SUNY @ Buffalo, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Powder Diffraction
Detailed Research/Techniques: Powder diffraction and EXAFS for materials research including pharmaceuticals, proteins, scattering from semiconductor multilayers and thin films of various materials. BL Techinques-Powder diffraction, scattering, EXAFS.
Energy Range: 6-30 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Peter Stephens, 631-632-8156, Peter.Stephens@sunysb.edu
Spokesperson: Philip Coppens, 716-645-6800/2217, coppens@acsu.buffalo.edu
Beamline Phone: 631-344-5634

**Beamline X3B2**

PRT Affiliations: Alfred University, Amoco Corporation, SUNY @ Buffalo, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Surface X-ray Scattering
Detailed Research/Techniques: Surface science.
Energy Range: 6-26 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Peter Stephens, 631-632-8156, Peter.Stephens@sunysb.edu
Spokesperson: Philip Coppens, 716-645-6800/2217, coppens@acsu.buffalo.edu
Beamline Phone: 631-344-5634

**Beamline X4A**

PRT Affiliations: Howard Hughes Medical Institute
Beamline Status: Operating
Primary Techniques: PX, MAD
Detailed Research/Techniques: Macromolecular crystallography, multiwavelength anom. diff. analysis of crystalline biological macromolecules.
Energy Range: 3.5-20 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Craig Ogata, 631-344-7435, ogata@bnl.gov
Spokesperson: Wayne Hendrickson, 212-305-3456, wayne@convex.hhmi.columbia.edu
Beamline Phone: 631-344-5604

**Beamline X4C**

PRT Affiliations: Howard Hughes Medical Institute
Beamline Status: Operating
Primary Techniques: PX

Detailed Research/Techniques: Macromolecular crystallography, diffraction measurements from biology molecules.
Energy Range: 7-20 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Craig Ogata, 631-344-7435, ogata@bnl.gov
Spokesperson: Wayne Hendrickson, 212-305-3456, wayne@convex.hhmi.columbia.edu
Beamline Phone: 631-344-5585

**Beamline X5A**

PRT Affiliations: Brookhaven National Laboratory (Physics), Forschungszentrum Juelich (KFA), Frascati National Laboratory, Norfolk State University, Ohio University, Osaka University, SUNY @ Stony Brook, Syracuse University, University of Paris, University of Rome II, University of South Carolina, University of Virginia, Virginia Polytechnic Inst. & State University
Beamline Status: Operating
Primary Techniques: Laser Backscattering
Detailed Research/Techniques: Perform sensitive new tests of models describing the internal structure of protons, neutrons and light nuclei, particularly properties associated with their spin, through a program of experiments with polarized photon beams and polarized nucleon targets.
Energy Range: 140-470 MeV
Monochromator Type:
General user allocation: 0%
Local contact: Craig Thorn, 631-344-7798, thorn1@bnl.gov
Spokesperson: Andrew Sandorfi, 631-344-7951, sandorfi@bnl.gov
Beamline Phone: 631-344-5605

**Beamline X7A**

PRT Affiliations: Brookhaven National Laboratory (Physics), Carnegie Institute of Washington, Chevron Research & Technology Company, Ohio State University, SUNY @ Stony Brook, University of California @ Santa Barbara, University of Pennsylvania,
Beamline Status: Operating
Primary Techniques: Powder Diffraction
Detailed Research/Techniques: Dedicated to powder diffraction experiments operated in four principle modes: High-resolution mode, high-throughput mode, using linear position-sensitive detector, PDF mode, semiconductor is employed, high-pressure mode, triangular cut monochromator.
Energy Range: 5-45 keV
Monochromator Type: CCM
General user allocation: 25%
Local contact: Thomas Vogt, 631-344-3731, tvogt@bnl.gov
Spokesperson: Thomas Vogt, 631-344-3731, tvogt@bnl.gov
Beamline Phone: 631-344-5607

**Beamline X7B**

PRT Affiliations: Brookhaven National Laboratory (Chemistry)
Beamline Status: Operating
Primary Techniques: Crystallography
Detailed Research/Techniques: Crystallography, wide angle scattering, time-resolved diffraction.
Energy Range: 5-21 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Jonathan Hanson, 631-344-4378, hanson1@bnl.gov
Spokesperson: Jose Rodriguez, 631-344-2246, rodrigez@bnl.gov
Beamline Phone: 631-344-5707

**Beamline X8A**

PRT Affiliations: Bechtel Nevada, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory
Beamline Status: Operating
Primary Techniques: Metrology

Detailed Research/Techniques: Calibration of mirrors and detector systems, material optical constants, spectrometric properties.
Energy Range: .26-5.9 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Michael Sagurton, 631-344-5708, sagurton@bnl.gov
Spokesperson: Roger Bartlett, 505-667-5923, rbartlett@lanl.gov
Beamline Phone: 631-344-5708

**Beamline X8C**

PRT Affiliations: Brookhaven National Laboratory (Biology), Hoffmann-La Roche, Los Alamos National Laboratory, National Research Council of Canada, University of California @ Los Angeles
Beamline Status: Operating
Primary Techniques: PX
Detailed Research/Techniques: Diffraction from biological macromolecules.
Energy Range: 5-19 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Leonid Flaks, 631-344-2682, flaks@bnl.gov
Spokesperson: Joel Berendzen, 505-665-2552, joelb@lanl.gov
Beamline Phone: 631-344-5608

**Beamline X9A**

PRT Affiliations: Albert Einstein College of Medicine, Rockefeller University, Sloan-Kettering Institute for Cancer Research
Beamline Status: Operating
Primary Techniques: PX, MAD
Detailed Research/Techniques: Macromolecular protein crystallography.
Energy Range: 5-15 keV
Monochromator Type: DCM
General user allocation: 0%
Local contact: Thirumuruhan Radhakannan, 718-430-2844, rptm_72@yahoo.com
Spokesperson: Mark Chance, 718-430-4136/2894, mrc@aecom.yu.edu
Beamline Phone: 631-344-5787

**Beamline X9B**

PRT Affiliations: Albert Einstein College of Medicine, National Institutes of Health
Beamline Status: Operating
Primary Techniques: PX, EXAFS, MAD
Detailed Research/Techniques: EXAFS, multiwave length anomalous diffraction (MAD).
Energy Range: 5-15 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Zbigniew Dauter, 631-344-7367, dauter@bnl.gov
Spokesperson: Mark Chance, 718-430-4136/2894, mrc@aecom.yu.edu
Beamline Phone: 631-344-5609

**Beamline X10A**

PRT Affiliations: ExxonMobil Research and Engineering Co.,
Beamline Status: Operating
Primary Techniques: SAXS
Detailed Research/Techniques: Small angle x-ray, scattering (SAXS).
Energy Range: 6-15.2 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Steve Bennett, 631-344-4719, sbennett@bnl.gov
Spokesperson: Rainer Kolb, 908-730-2970, rainer.kolb@exxonmobil.com
Beamline Phone: 631-344-5610

**Beamline X10B**

PRT Affiliations: ExxonMobil Research and Engineering Co.,
Beamline Status: Operating
Primary Techniques: PXD, Reflectivity
Detailed Research/Techniques: general purpose scattering: powder and wide angle x-ray diffraction, x-ray reflectivity.
Energy Range: 8-12 keV
Monochromator Type: SCM
General user allocation: 25%
Local contact: Steve Bennett, 631-344-4719, sbennett@bnl.gov
Spokesperson: Rainer Kolb, 908-730-2970, rainer.kolb@exxonmobil.com
Beamline Phone: 631-344-5710

**Beamline X10C**

PRT Affiliations: ExxonMobil Research and Engineering Co.,
Beamline Status: Operating
Primary Techniques: XAS
Detailed Research/Techniques: x-ray absorption spectroscopy (XAS).
Energy Range: 4-24 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Michael Sansone, 631-344-5759, msanson@bnl.gov
Spokesperson: Paul Stevens, 908-730-2584, paul.a.stevens@exxonmobil.com
Beamline Phone: 631-344-3265

**Beamline X11A**

PRT Affiliations: Brookhaven National Laboratory (Environmental Science), Naval Research Laboratory, Naval Surface Warfare Center, New Jersey Institute of Technology, North Carolina State University, Paul Scherrer Institute, U.S. Enivronmental Protection Agency, University of Connecticut
Beamline Status: Operating
Primary Techniques: XAFS
Detailed Research/Techniques: EXAFS of materials and chemical systems in nominal energy range of 4.5-35 keV Techniques: XAFS, DAFS.
Energy Range: 4.5-35 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Kaumudi Pandya, 631-344-7734, pandya@sun2.bnl.gov
Spokesperson: Bruce Ravel, 202-767-5947, ravel@phys.washington.edu
Beamline Phone: 631-344-5611

**Beamline X12A**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Diagnostic
Primary Techniques: White and Mono R&D
Detailed Research/Techniques: Instrument development and x-ray physics.
Energy Range: 5-50 keV
Monochromator Type: CCM
General user allocation: 0%
Local contact: Peter Siddons, 631-344-2738, siddons@bnl.gov
Spokesperson: Peter Siddons, 631-344-2738, siddons@bnl.gov
Beamline Phone: 631-344-2738

**Beamline X12B**

PRT Affiliations: Brookhaven National Laboratory (Biology)
Beamline Status: Operating
Primary Techniques: PX
Detailed Research/Techniques: Macromolecular crystallography, multi-wavelength anomalous dispersion, mail-in and remote participation crystallography.
Energy Range: 5-20 keV

Monochromator Type: DCM
General user allocation: 25%
Local contact: Dieter Schneider, 631-344-3423, schneider@bnl.gov
Spokesperson: Dieter Schneider, 631-344-3423, schneider@bnl.gov
Beamline Phone: 631-344-5712

**Beamline X12C**

PRT Affiliations: Brookhaven National Laboratory (Biology)
Beamline Status: Operating
Primary Techniques: PX, MAD
Detailed Research/Techniques: Macromolecular crystallography, multi-wavelength anomalous dispersion (MAD), software for high-throughput crystallography.
Energy Range: 7.5-13.5 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Anand Saxena, 631-344-4844, asaxena@bnl.gov
Spokesperson: Robert Sweet, 631-344-3401, sweet@bnl.gov
Beamline Phone: 631-344-5642

**Beamline X13A**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Operating
Primary Techniques: R&D, MCD
Detailed Research/Techniques: R&D optics development, soft x-ray utilization.
Energy Range: .2-1.8 keV
Monochromator Type: SGM
General user allocation: 0%
Local contact: Elio Vescovo, 631-344-7399, vescovo@bnl.gov
Spokesperson: Cecilia Sanchez Hanke, 631-344-5699, Hanke@bnl.gov
Beamline Phone: 631-344-5613

**Beamline X13B**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Operating
Primary Techniques: R&D
Detailed Research/Techniques: R&D optics development, soft x-ray utilization.
Energy Range: 5-15 KeV
Monochromator Type: CCM
General user allocation: 0%
Local contact: Cecilia Sanchez Hanke, 631-344-5699, Hanke@bnl.gov
Spokesperson: Chi-Chang Kao, 631-344-4494, kao@bnl.gov
Beamline Phone: 631-344-5613

**Beamline X14A**

PRT Affiliations: Oak Ridge National Laboratory, University of Tennessee
Beamline Status: Operating
Primary Techniques: Scattering
Detailed Research/Techniques: Scattering crystallography spectroscopy phase ID and resid. strain meas, high temp x-ray diffraction.
Energy Range: 5-26 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Jianming Bai, 631-344-2583, bai@bnl.gov
Spokesperson: Camden Hubbard, 865-574-4472, hubbardcr@ornl.gov
Beamline Phone: 631-344-5614

**Beamline X14B**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Operating
Primary Techniques: HARMST

Detailed Research/Techniques: Manuf. Research for hard x-ray lithography exposures for precision microfabrication.
Monochromator Type: W
General user allocation: 0%
Local contact: Erik Johnson, 631-344-4603, erik@bnl.gov
Spokesperson: Erik Johnson, 631-344-4603, erik@bnl.gov
Beamline Phone: 631-344-5614

**Beamline X15A**

PRT Affiliations: Argonne National Laboratory, Brookhaven National Laboratory (NSLS), European Synchrotron Radiation Facility, Illinois Institute of Technology, North Carolina State University, Northwestern University, University of North Carolina
Beamline Status: Operating
Primary Techniques: XSW and DEI
Detailed Research/Techniques: X-ray standing waves X-ray optics Medical imaging. Techniques: X-ray standing wave, diffraction enhanced imaging.
Energy Range: 3-25keV XSW, 10-60keV DEI
Monochromator Type: DCM
General user allocation: 25%
Local contact: Zhong Zhong, 631-344-2117, zhong@bnl.gov
Spokesperson: Michael Bedzyk, 847-491-3570, bedzyk@northwestern.edu
Beamline Phone: 631-344-5615

**Beamline X15B**

PRT Affiliations: Lucent Technologies, Inc.,
Beamline Status: Operating
Primary Techniques: EXAFS
Detailed Research/Techniques: X-ray absorption spectroscopy of complex, reactive, very dilute systems. Techniques: EXAFS, SEXAFS, NEXAFS.
Energy Range: 1.5-15 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Paul Northrup, 631-344-3565, northrup@bnl.gov
Spokesperson: Paul Citrin, 908-582-5275, phc@bell-labs.com
Beamline Phone: 631-344-3565

**Beamline X16A**

PRT Affiliations: Lucent Technologies, Inc., University of Illinois @ Chicago
Beamline Status: Operating
Primary Techniques: Surface Diffraction
Detailed Research/Techniques: Surface diffraction.
Energy Range: 4-12 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: William Lehnert, 631-344-3635, lehnert@bnl.gov
Spokesperson: Kenneth Evans-Lutterodt, 908-582-2154, kenne@agere.com
Beamline Phone: 631-344-5616

**Beamline X16B**

PRT Affiliations: Lucent Technologies, Inc.
Beamline Status: Operating
Primary Techniques: Powder
Detailed Research/Techniques: rapid access for sample characterization, powder characterization, thin film characterization.
Energy Range: 7.85 keV
Monochromator Type: SCM
General user allocation: 25%
Local contact: William Lehnert, 631-344-3635, lehnert@bnl.gov
Spokesperson: Kenneth Evans-Lutterodt, 908-582-2154, kenne@agere.com
Beamline Phone: 631-344-5716

**Beamline X16C**

PRT Affiliations: Lucent Technologies, Inc., University of Illinois @ Chicago
Beamline Status: Operating
Primary Techniques: Scattering
Detailed Research/Techniques: Novel spectroscopy, diffraction.
Energy Range: 4.5-25 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: William Lehnert, 631-344-3635, lehnert@bnl.gov
Spokesperson: Kenneth Evans-Lutterodt, 908-582-2154, kenne@agere.com
Beamline Phone: 631-344-5816

**Beamline X17B1**

PRT Affiliations: Brookhaven National Laboratory (Medical), Brookhaven National Laboratory (NSLS), Carnegie Institute of Washington, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: Scattering
Detailed Research/Techniques: X-ray scattering at high pressure and temperature.
Energy Range: 20-100 keV
Monochromator Type: DCM
General user allocation: 45%
Local contact: Zhong Zhong, 631-344-2117, zhong@bnl.gov
Spokesperson: Jerry Hastings, 631-344-3930, hastings@bnl.gov
Beamline Phone: 631-344-5717

**Beamline X17C**

PRT Affiliations: Carnegie Institute of Washington, Lawrence Livermore National Laboratory, Naval Research Laboratory, University of Chicago
Beamline Status: Operating
Primary Techniques: Diffraction
Detailed Research/Techniques: The EOS and phase diagram of powder samples or single-crystals are studied with EDXD in DAC and may combined with High T, resistively heating or laser heating, technique. With RXD it can do the study of elasticity and rheology.
Energy Range: 5-80 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Jingzhu Hu, 202-686-2410, jzhu@bnl.gov
Spokesperson: Ho-kwang Mao, 202-478-8960, mao@gl.ciw.edu
Beamline Phone: 631-344-5917

**Beamline X18A**

PRT Affiliations: Brookhaven National Laboratory (Environmental Science), Pennsylvania State University, Purdue University, University of Illinois @ Chicago, University of Maryland, University of Missouri
Beamline Status: Operating
Primary Techniques: Scattering
Detailed Research/Techniques: Diffuse and surface scattering.
Energy Range: 4-20 keV
Monochromator Type: DCM
General user allocation: 0%
Local contact: Steven Ehrlich, 631-344-7862, ehrlich@bnl.gov
Spokesperson: Paul Sokol, 814-863-5811, pes4@psu.edu
Beamline Phone: 631-344-5618

**Beamline X18B**

PRT Affiliations: AlliedSignal, Inc., Brookhaven National Laboratory (Chemistry), Brookhaven National Laboratory (Environmental Science), Brookhaven National Laboratory (NSLS), Chevron Research & Technology Company, Dow Chemical Company, General Electric, Institute of Paper Science and Technology, PPG Industries, Inc., Rutgers University, UOP, University of Kentucky
Beamline Status: Operating
Primary Techniques: EXAFS

Detailed Research/Techniques: X-ray spectroscopy.
Energy Range: 5.7-40 keV
Monochromator Type: CCM
General user allocation: 25%
Local contact: Syed Khalid, 631-344-7496, khalid@bnl.gov
Spokesperson: Wolfgang Caliebe, 631-344-4744, caliebe@bnl.gov
Beamline Phone: 631-344-5718

**Beamline X19A**

PRT Affiliations: Brookhaven National Laboratory (Chemistry), Brookhaven National Laboratory (Environmental Science), Brookhaven National Laboratory (NSLS), Chevron Research & Technology Company, Dow Chemical Company, General Electric, Rutgers University, UOP, University of California @ Davis, University of Kentucky
Beamline Status: Operating
Primary Techniques: EXAFS
Detailed Research/Techniques: X-ray absorption spectroscopy: EXAFS and XANES, resonant x-ray diffraction of free standing liquid crystal films.
Energy Range: 2-8 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Wolfgang Caliebe, 631-344-4744, caliebe@bnl.gov
Spokesperson: Wolfgang Caliebe, 631-344-4744, caliebe@bnl.gov
Beamline Phone: 631-344-5619

**Beamline X19C**

PRT Affiliations: Army Research Laboratory, Dartmouth College, Johns Hopkins University, National Aeronautical and Space Agency, Northrop Grumman ATDC, SUNY @ Stony Brook, University of Chicago, University of Illinois @ Chicago, University of Wisconsin
Beamline Status: Operating
Primary Techniques: Scattering, Topography
Detailed Research/Techniques: X-ray scattering from solid and liquid surfaces. Topographic study (primarily white beam) of defects in single crystal materials.
Energy Range: 6-17 keV
Monochromator Type: W or SCM
General user allocation: 25%
Local contact: Aleksey Tikhonov, 631-344-5719, Alexeit@uic.edu
Spokesperson: Mark Schlossman, 312-996-8787, schloss@uic.edu
Beamline Phone: 631-344-5719

**Beamline X20A**

PRT Affiliations: IBM Research Division, Massachusetts Institute of Technology
Beamline Status: Operating
Primary Techniques: Diffraction
Detailed Research/Techniques: X20A is devoted to x-ray scattering and diffraction of surfaces, thin films, electrochemical systems, polymers, liquid crystals, microelectronics materials, and magnetic structures.
Energy Range: 6.3-12 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Jean Jordan-Sweet, 914-945-3322, jlj@bnl.gov
Spokesperson: Robert Birgeneau, 617-253-4937, robertjb@bnl.gov
Beamline Phone: 631-344-5720

**Beamline X20B**

PRT Affiliations: IBM Research Division, Massachusetts Institute of Technology
Beamline Status: Operating
Primary Techniques: Diffraction
Detailed Research/Techniques: Beamline X20B is devoted to x-ray diffraction and scattering at a nominal fixed energy of 17.4 keV, for experiments on buried interfaces, surfaces in solution, and studies of materials under high magnetic field.
Energy Range: 17.4 keV
Monochromator Type: SCM
General user allocation: 25%

Local contact: Jean Jordan-Sweet, 914-945-3322, jlj@bnl.gov
Spokesperson: Jean Jordan-Sweet, 914-945-3322, jlj@bnl.gov
Beamline Phone: 631-344-5192

**Beamline X20C**

PRT Affiliations: IBM Research Division, Massachusetts Institute of Technology
Beamline Status: Operating
Primary Techniques: Diffraction
Detailed Research/Techniques: X20C has an optional high-bandpass synthetic multilayer monochromator which provides a high photon flu. Weakly diffracting systems and time-resolved diffraction of phase transformations are studied.
Energy Range: 5-11 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Jean Jordan-Sweet, 914-945-3322, jlj@bnl.gov
Spokesperson: Jean Jordan-Sweet, 914-945-3322, jlj@bnl.gov
Beamline Phone: 631-344-5720

**Beamline X21**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Operating
Primary Techniques: Inelastic Scattering
Detailed Research/Techniques: Inelastic x-ray scattering; Techniques: inelastic scattering, inelastic diffraction.
Energy Range: 5-10 keV
Monochromator Type: DCCM
General user allocation: 75%
Local contact: Wolfgang Caliebe, 631-344-4744, caliebe@bnl.gov
Spokesperson: Chi-Chang Kao, 631-344-4494, kao@bnl.gov
Beamline Phone: 631-344-5721

**Beamline X22A**

PRT Affiliations: Brookhaven National Laboratory (Environmental Science), Brookhaven National Laboratory (Physics), Rutgers University, University of Maryland
Beamline Status: Operating
Primary Techniques: Scattering
Detailed Research/Techniques: X-ray scattering of thin films, multilayers, catalytic materials, electro-chemical interfaces.
Energy Range: 10 keV (nom) and 32keV
Monochromator Type: SCM
General user allocation: 25%
Local contact: John Hill, 631-344-3736, john@solids.phy.bnl.gov
Spokesperson: Ben Ocko, 631-344-4299, ben@solids.phy.bnl.gov
Beamline Phone: 631-344-5622

**Beamline X22B**

PRT Affiliations: Argonne National Laboratory, Brookhaven National Laboratory (Physics), Harvard University, Rutgers University
Beamline Status: Operating
Primary Techniques: Liquid Scattering
Detailed Research/Techniques: X-ray scattering from liquid surfaces: gels, glasses, liquid metals, langmuir films, and systems crstallizing from solution. Diffraction of intermetallic compounds under magnetic fields.
Energy Range: 6.5-10 keV
Monochromator Type: SCM
General user allocation: 25%
Local contact: John Hill, 631-344-3736, john@solids.phy.bnl.gov
Spokesperson: Ben Ocko, 631-344-4299, ben@solids.phy.bnl.gov
Beamline Phone: 631-344-5622

**Beamline X22C**

PRT Affiliations: Argonne National Laboratory, Brookhaven National Laboratory (Physics), Rutgers University, University of Maryland

Beamline Status: Operating
Primary Techniques: Scattering
Detailed Research/Techniques: Resonant x-ray scattering studies of electronic order, structure and phase behavior of metal surfaces.
Energy Range: 3-12 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: John Hill, 631-344-3736, john@solids.phy.bnl.gov
Spokesperson: Ben Ocko, 631-344-4299, ben@solids.phy.bnl.gov
Beamline Phone: 631-344-5622

**Beamline X23A2**

PRT Affiliations: National Institute of Standards & Technology
Beamline Status: Operating
Primary Techniques: EXAFS
Detailed Research/Techniques: EXAFS and DAFS for Materials Science. Techniques: EXAFS, DAFS, XRD.
Energy Range: 4.7-30 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Joseph Woicik, 631-344-5236, woicik@bnl.gov
Spokesperson: Joseph Woicik, 631-344-5236, woicik@bnl.gov
Beamline Phone: 631-344-5823

**Beamline X23B**

PRT Affiliations: Hunter College, Naval Research Laboratory, New Jersey Institute of Technology
Beamline Status: Operating
Primary Techniques: EXAFS
Detailed Research/Techniques: EXAFS and diffraction of materials and chemical systems in nominal energy range.
Energy Range: 3-10.5 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Johnny Kirkland, 631-344-2258, kirkland@bnl.gov
Spokesperson: Bruce Ravel, 202-767-5947, ravel@phys.washington.edu
Beamline Phone: 631-344-5723

**Beamline X24A**

PRT Affiliations: Brookhaven National Laboratory (NSLS), City University of New York, National Institute of Standards & Technology, University of Maryland, University of Rhode Island, University of Tennessee
Beamline Status: Operating
Primary Techniques: X-ray Standing Waves
Detailed Research/Techniques: Physics and chemistry of surfaces and bulk condensed matter. Techniques: X-ray standing waves, X-ray photoemission spectroscopy, X-ray fluorescence spectroscopy, EXAFS, Auger spectroscopy.
Energy Range: 1.8-5 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Barry Karlin, 631-344-5624, karlin@bnl.gov
Spokesperson: Terrence Jach, 301-975-2362, terrence.jach@nist.gov
Beamline Phone: 631-344-5624

**Beamline X24C**

PRT Affiliations: Naval Research Laboratory,
Beamline Status: Operating
Primary Techniques: Reflectance Spectroscopy
Detailed Research/Techniques: Photoemission and reflectance spectroscopy.
Energy Range: .006-1.8 keV
Monochromator Type: DCM
General user allocation: 25%
Local contact: Jack Rife, 202-767-4654, rife@nrl.navy.mil
Spokesperson: Jack Rife, 202-767-4654, rife@nrl.navy.mil
Beamline Phone: 631-344-5723

**Beamline X25**

PRT Affiliations: Brookhaven National Laboratory (Biology), Brookhaven National Laboratory (NSLS)
Beamline Status: Operating
Primary Techniques: Scattering/PX
Detailed Research/Techniques: High intensity, high brightness photon beam, high Q-resolution elastic scattering.
Energy Range: 3-30 keV
Monochromator Type: DCM
General user allocation: 75%
Local contact: Michael Becker, 631-344-4739, mbecker@bnl.gov
Spokesperson: Lonny Berman, 631-344-5333, berman@bnl.gov
Beamline Phone: 631-344-5625

**Beamline X26A**

PRT Affiliations: Brookhaven National Laboratory (Environmental Science), University of Chicago, University of Georgia
Beamline Status: Operating
Primary Techniques: Microprobe
Detailed Research/Techniques: Develop and apply a synchrotron-based x-ray microprobe. Techniques: Synchrotron x-ray fluorescence microanalysis, microspectroscopy (including XAS), and microdiffraction in geochemistry, environmental science, chemistry, biology, and other fields.
Energy Range: 3-30 keV
Monochromator Type: CCM
General user allocation: 25%
Local contact: Antonio Lanzirotti, 631-344-5626, lanzirotti@bnl.gov
Spokesperson: Stephen Sutton, 630-252-0426, sutton@cars.uchicago.edu
Beamline Phone: 631-344-5626

**Beamline X26C**

PRT Affiliations: Brookhaven National Laboratory (Biology), Cold Spring Harbor Laboratory, SUNY @ Stony Brook
Beamline Status: Operating
Primary Techniques: PX
Detailed Research/Techniques: Macromolecular x-ray crystallography using intense monochromatic and focused white beam.
Energy Range: 5-20 keV
Monochromator Type: CCM
General user allocation: 25%
Local contact: Annie Heroux, 631-344-4454, heroux@bnl.gov
Spokesperson: Dieter Schneider, 631-344-3423, schneider@bnl.gov
Beamline Phone: 631-344-5726

**Beamline X27A**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Operating
Primary Techniques: Microtomography PRT
Detailed Research/Techniques: Computed X-ray microtomography.
Energy Range: 8-40 keV
Monochromator Type: various
General user allocation: 25%
Local contact: Peter Siddons, 631-344-2738, siddons@bnl.gov
Spokesperson: Peter Siddons, 631-344-2738, siddons@bnl.gov
Beamline Phone: 631-344-5738

**Beamline X27B**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Diagnostic
Primary Techniques: HARMST
Detailed Research/Techniques: NSLS R&D only, Develop exposure techniques, matls. char., and tool development for microfab. Have operated for short project development runs for outside users from the Jet Propulsion Lab., AXSUN, and the U. of Ulm.
Monochromator Type: W

General user allocation: 0%
Local contact: Erik Johnson, 631-344-4603, erik@bnl.gov
Spokesperson: Erik Johnson, 631-344-4603, erik@bnl.gov
Beamline Phone: 631-344-5627

**Beamline X27C**

PRT Affiliations: General Electric, Honeywell International, Montell Polyolefins USA, National Institute of Standards & Technology, National Institutes of Health, SUNY @ Stony Brook, U.S. Air Force
Beamline Status: Operating
Primary Techniques: Combined SAXS and WAXD
Detailed Research/Techniques: Simultaneous small & wide angle x-ray scattering (SWAX) in time resolved or in-situ mode.
Energy Range: 9 KeV
Monochromator Type: Doub.Multi
General user allocation: 30%
Local contact: Feng-ji Yeh, 631-632-7892, fyeh@bnl.gov
Spokesperson: Benjamin Hsiao, 631-632-7793, Benjamin.Hsiao@sunysb.edu
Beamline Phone: 631-344-5627

**Beamline X28A**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Diagnostic
Primary Techniques: Diagnostic
Detailed Research/Techniques: Instrument development, photon-based diagnostics and detector development for the X-ray Ring.
General user allocation: 0%
Local contact: Jeffrey Rothman, 631-344-4914, jrothman@bnl.gov
Spokesperson: Steven Ehrlich, 631-344-7862, ehrlich@bnl.gov
Beamline Phone: 631-344-5728

**Beamline X28B**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Diagnostic
Primary Techniques: Diagnostic
Detailed Research/Techniques: Photon-based diagnostics and detector development for the X-ray Ring.
General user allocation: 0%
Local contact: Jeffrey Rothman, 631-344-4914, jrothman@bnl.gov
Spokesperson: Steven Ehrlich, 631-344-7862, ehrlich@bnl.gov
Beamline Phone: 631-344-2117

**Beamline X28C**

PRT Affiliations: Albert Einstein College of Medicine
Beamline Status: Operating
Primary Techniques: X-ray Footprinting
Detailed Research/Techniques: Time-resolved x-ray footprinting of DNA, RNA and proteins.
Monochromator Type: W
General user allocation: 25%
Local contact: Narcisse Komas, 631-344-2308, komas@bnl.gov
Spokesperson: Mark Chance, 718-430-4136/2894, mrc@aecom.yu.edu
Beamline Phone: 631-344-5628

**Beamline X30**

PRT Affiliations: Brookhaven National Laboratory (NSLS)
Beamline Status: Diagnostic
Primary Techniques: Diagnostic
Detailed Research/Techniques: Diagnostic Instrument.
General user allocation: 0%
Local contact: Erik Johnson, 631-344-4603, erik@bnl.gov
Spokesperson: Erik Johnson, 631-344-4603, erik@bnl.gov