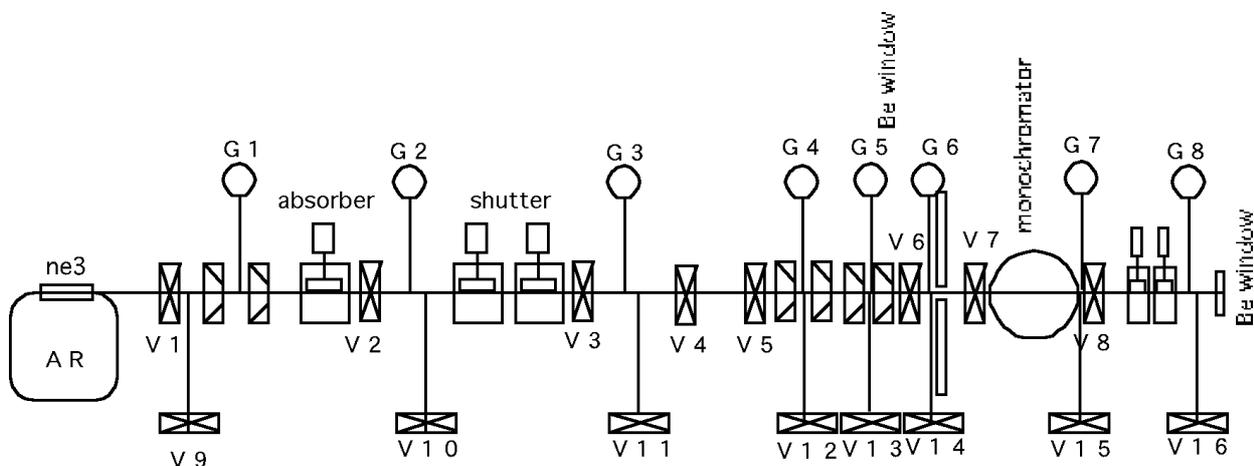


BL-NE3 An x-ray undulator beamline in the Accumulation Ring

The beamline and the experimental station were put in commission in 1990, and parasitically operated at the Accumulation Ring (AR) of the TRISTAN main ring of high-energy physics until to the end of 1996. From the spring of 1998, the AR became the exclusive use machine of synchrotron radiation.



Optics

Si 111 Double Crystal Monochromator,
 $6-27\text{keV}/2 \times 10^{-4}(\Delta E/E)/4\text{e}12\text{cps}(14.4\text{keV}@30\text{mA})/15 \times 1\text{mm}$
 Si 422-12,22 channel cut high-resolution monochromator
 $14.4\text{keV}/2 \times 10^{-7}(\Delta E/E)/2\text{e}8\text{cps}(14.4\text{keV}@30\text{mA})/15 \times 1\text{mm}$
 Fe_2O_3 777 nuclear bragg scattering monochromator
 $14.4\text{keV}/2 \times 10^{-11}(\Delta E/E)/2\text{e}4\text{cps}(14.4\text{keV}@30\text{mA})/15 \times 1\text{mm}$

Facilities in Experimental Station

- Hutch $4 \times 4 \times 3\text{m}$
- PIN detectors, APD detectors, NaI detectors, SSD
- Time resolved detection system
- IBM-Windows95 computers, LabView software and "Q" data collection software
- 4-inches silicon crystal cutting machine

Reference

Zhang Xiaowei et al, "Construction and performance of an x-ray undulator beamline at the TRISTAN Accumulation Ring"
 Rev. Sci. Instrum. 63(1992) 404-408
 Zhang Xiaowei, Yoshitaka Yoda, Makoto Seto, Yutaka Maeda, Seishi Kikuta and Masami Ando.
 "Nuclear Excitation of ^{57}Fe Ions in Hydrochloric Acid Solution Using Synchrotron Radiation", Jpn. J. Appl. Phys. 34(1995) L330
 Makoto Seto, Yoshitaka Yoda, Seishi Kikuta, Zhang Xiaowei and Masami Ando, "Observation of Nuclear Resonant Scattering Accompanied by Phonon Excitation Using Synchrotron Radiation", Phys. Rev. Lett. 74(1995) 3828

Ichiro KOYAMA, Yoshitaka YODA, Xiaowei ZHANG, Masami ANDO, Seishi KIKUTA

"Nuclear Resonant Excitation of 161-Dy and 151-Eu by Synchrotron Radiation"

Jpn. J. Appl. Phys. 35(1995) 6297

Zhang xiaowei, Yoshitaka Yoda, Yasuhiko Imai

"Precision wavelength measurement of the 14.4keV Mössbauer photon"

J. Synchrotron Rad. 7(2000)189

W_ Sturhahn, T.S. Toellner, E.E. Alp, X. Zhang, M. Ando, Y.Yoda, S. Kikuta, M. Seto, C.W. Kimball and B. Dabrowski, "Phono Desenty of States Measured by Inelastic Nuclear Resonant Scattering", Phys. Rev. Lett.74(1995) 3832

Y. Hasegawa, Y. Yoda, K. Izumi, T. Ishikawa, S. Kikuta, X. W. Zhang and M. Ando, "Phase Transfer in Time-Delayed Interferometry With Nuclear Resonant Scattering", Phys. Rev. Lett. 75(1995) 2216

Koichi Izumi, Takaya Mitsui, Makoto Seto, Yoshitaka Yoda, Tetsuya Ishikawa, Xiaowei Zhang, Masami Ando and Seishi Kikuta, "Interference of Nuclear Bragg Scattered X-Ray Interferometer with Large Optical Path Difference", Jpn. J. Appl. Phys. 34(1995) 5862

Nasu Saburo, International Conference on Applications of the Mosbauer Effect, (1997, Brazil). " High pressure experiments with synchrotron radiation"

Contact Person

Syunji Kishimoto

Phone: 0298-64-6108(ext.4439)

Fax: 0298-64-2801

e-mail: syunji.kishimoto@kek.jp

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