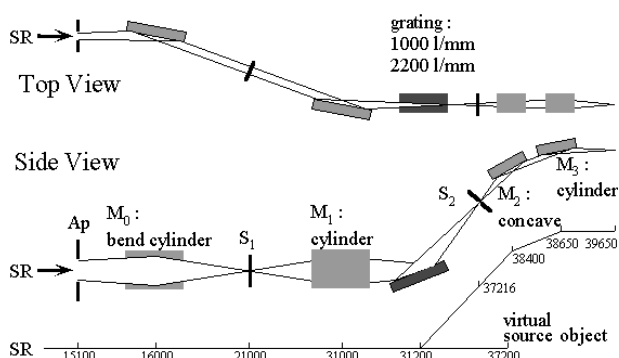


## BL-2C Soft X-ray Varied- Space Plane- Grating Monochromator Station

This beamline provides users with high intensity and highly monochromatized soft x-rays ranging from 250eV to 1500eV. In this energy range, the 1st or 3rd harmonic of undulator radiation from the U#02 planer undulator is used. Although this experimental station is opened for general users, experiments using characteristic features ( high flux, narrow band-pass, high degree of polarization, and small spot size ) of undulator radiation are most encouraged.



### SCHEMATIC VIEW OF THE BEAMLINE

#### Area of Research

- Soft x-ray emission spectroscopy of solid materials
- Photoemission spectroscopy of solid and gas phase materials
- Soft x-ray absorption spectroscopy of gas phase materials

#### Light Source

Type: planer undulator U#02  
 Period length:  $\lambda u=6\text{cm}$   
 Period number:  $N=60$   
 Tunable energy range: 270-1500eV

#### Optics

Self focusing varied-space plane grating monochromator in a configuration with sagittal focusing and convergent beam

#### Photons at sample

Energy range: 250-1500eV  
 Energy resolution: 10000  
 Photon flux: ca.  $10^{10}$  at the energy resolution of 10000  
 Beam Size: 0.9mm(H)  $\times$  0.1mm(V)

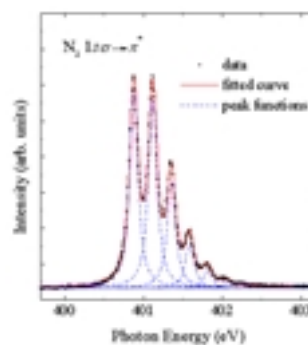


Fig.2  $N_2 1s \rightarrow \pi^*$  photoabsorption spectrum. The monochromator band-pass was determined as 40meV taking the natural width into account from this spectrum.

#### Facilities in Experimental Station

Personal computer for monochromator control [NEC PC-9821 $\times$  b10(MS-DOS) with 3.5" FDD(2HD)]  
 Software for monochromator control and MCS measurements  
 Photon intensity monitor system  
 Stage for experimental chamber: 2m  $\times$  2.3m  
 Connection to beamline: focal point from the end flange of ICF114 is ca. 730mm and ca.1200mm in height from the upper level of the stage.

#### Remarks

A soft x-ray emission spectrometer and an angle-resolved photoemission spectrometer that involves two ion spectrometer are mostly used at this experimental station. These apparatuses are also opened for general users. Users who bring their own apparatuses into this station are also welcome.

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#### References

1. Y. Yan and A. Yagishita, KEK Report 95-9(1995).
2. M.Watanabe et al., SPIE Vol.3150,58(1997).
3. A. Yagishita et al., J. Phys. IV FRANCE 7, C2-287(1997).
4. Y. Yan et al., J. Synchrotron Rad., 5, 246(1998).

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