

Nanoscale soft X-ray

Angle-resolved photoelectron spectroscopy (ARPES)

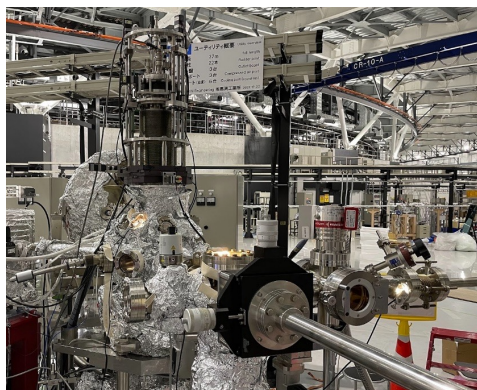
High energy-resolution micro-beam ARPES is available

Beamline properties

- Soft X-ray ARPES with wide energy range in 50-1000 eV
 - High flux beam with high energy-resolution $E/\Delta E > 50,000$ @ 65 eV
 - Detailed electronic structure analysis in few-meV scale in term of ARPES measurement
 - Electronic and magnetic state analysis using linearly and circularly polarized beam
- (*) In Future, spin-resolved ARPES measurements with spatial-resolution of ~ 100 nm will be available.

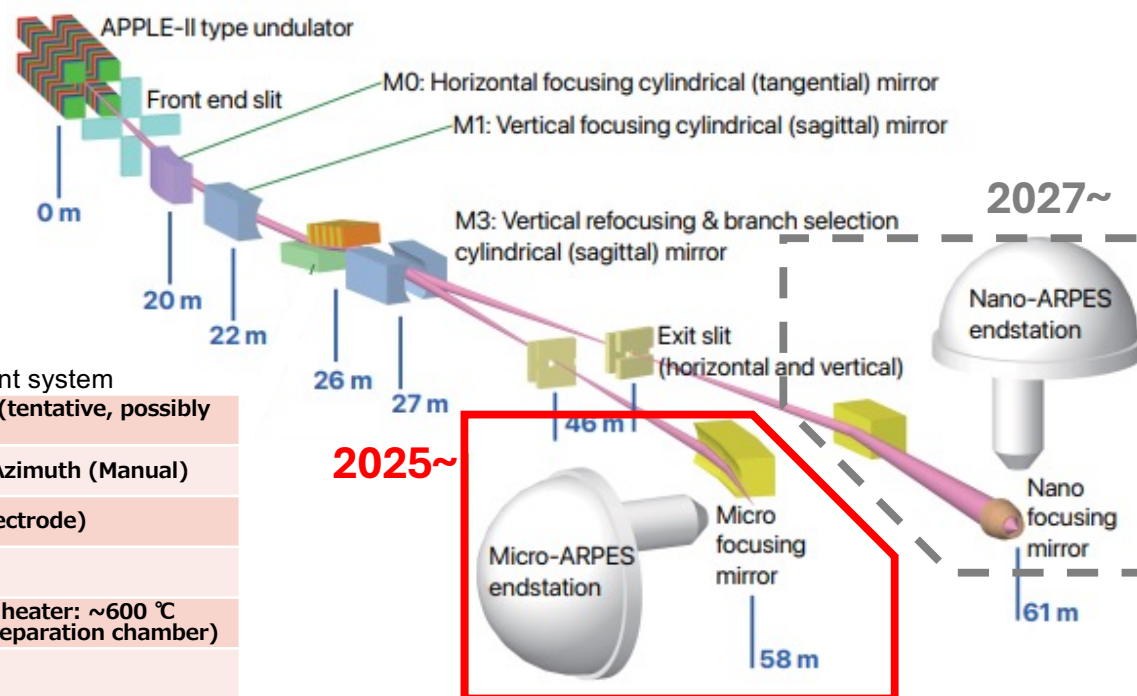
Methods

1. High energy-resolution ARPES
2. Resonant ARPES
3. Polarization-dependent ARPES



Microscale ARPES (Micro-ARPES) measurement system

Photoelectron Analyzer	SCIENIA OMICRON DA30-L (tentative, possibly R4000)
Sample manipulator	6-axis drive: x, y, z, θ , Tilt, Azimuth (Manual)
Operand measurement	Voltage application (Four electrode)
Sample Temperature	15 K ~ RT
Surface treatment	Cleaving, Annealing (With a heater: ~ 600 °C Electric heating: < 10 A@ Preparation chamber)
Beam size at sample position	$10 \mu\text{m(V)} \times 10 \mu\text{m(H)}$
Other	Omicron-type sample holder



K. Horiba et al., J. Phys.: Conf. Ser. **2380** 012034 (2022)