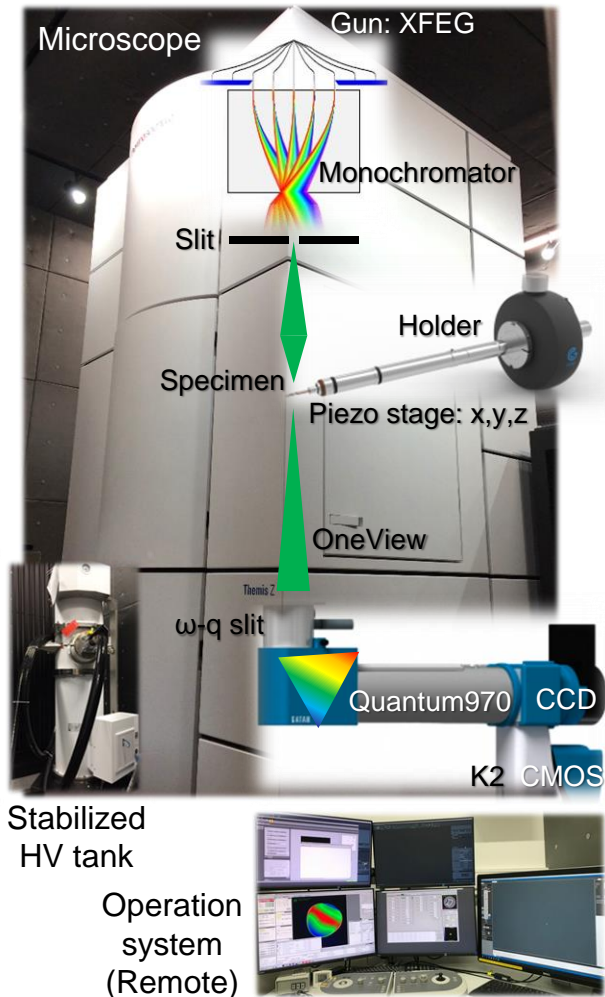


局所化学結合状態解析システム: Themis Z (Thermo Fisher Scientific)

— Transmission electron microscope capable of EELS with milli-eV resolution—



Feature① High energy-resolution EELS

- Mili-eV resolution: lattice/molecular vibration, Band gap
 - $\Delta E \sim 20 \text{ meV} @ 30 \text{ kV}, 80 \text{ kV}$ (Ultimono mode, CCD camera)
 - $\Delta E \sim 30 \text{ meV} @ 300 \text{ kV}$ (Ultimono mode, CMOS camera)
- Wide energy-range: Bonding states for all elements with high ΔE
 - Range 371 eV with $\Delta E = 0.1 \text{ eV} @ 300 \text{ kV}$ (CMOS camera)
 - Range 927.5 eV with $\Delta E = 0.25 \text{ eV} @ 300 \text{ kV}$ (CMOS camera)
- Angle resolved: Anisotropic bonding state, plasmon dispersion
 - ω -q slit

Feature② High-sensitivity measurement TEM

- Low dose TEM: Electron beam sensitive organic/inorganic materials
 - HRTEM with total dose $\geq 10 \text{ e}^- / \text{\AA}^2$ (CMOS camera)

Others

- Acceleration voltage: 30kV, 80kV, 200kV, 300kV
- Cs-corrected STEM: SCORR
- EDS: Solid angle 1.76str
- DPC (Differential Phase Contrast), iDPC (Integrated DPC) imaging

For inquiries, please contact the person in charge below. Priority is given to the use for features ①②.
 Contact: Jun Kikkawa (kikkawa.jun[[@](mailto:kikkawa.jun@nims.go.jp)]nims.go.jp) or Koji Kimoto (kimoto.koji[[@](mailto:kimoto.koji@nims.go.jp)]nims.go.jp)