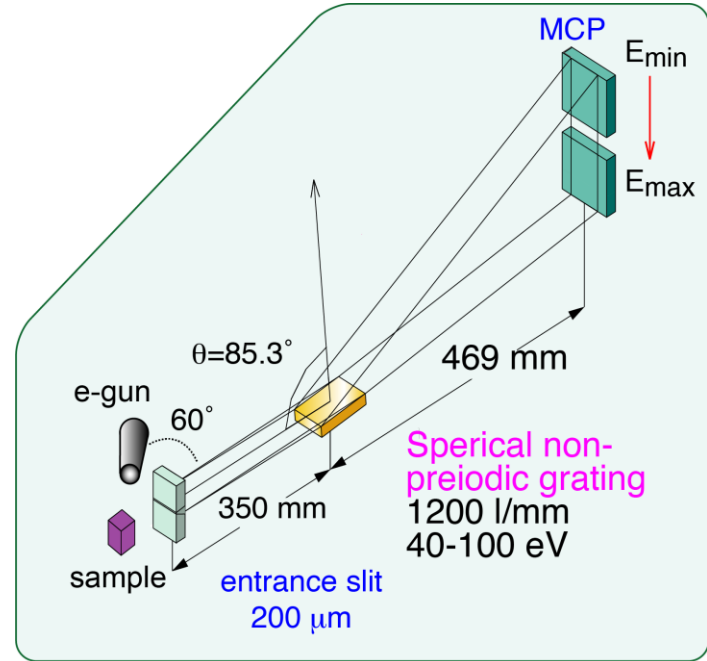
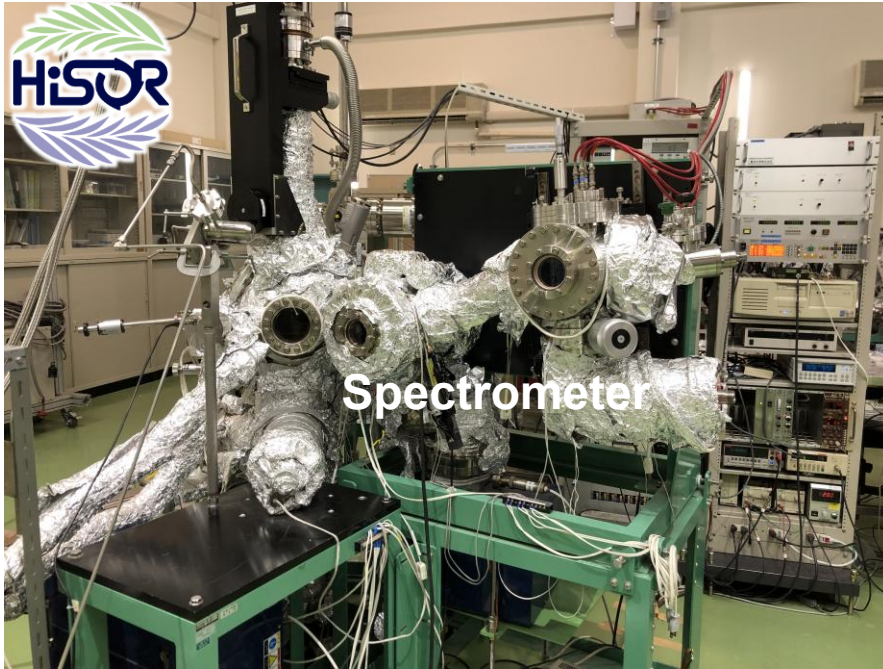


# Resonant inverse-photoemission spectroscopy (RIPES)

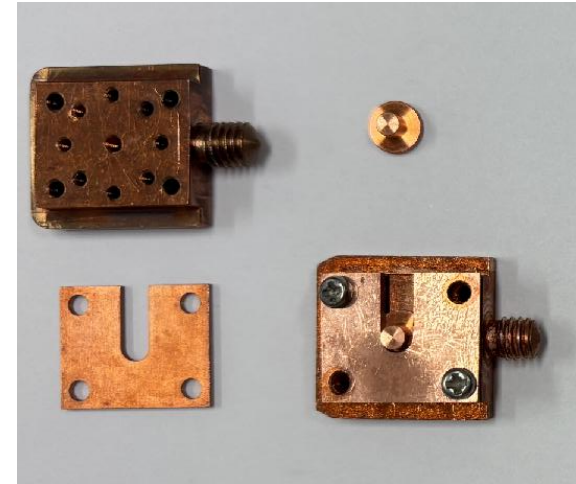
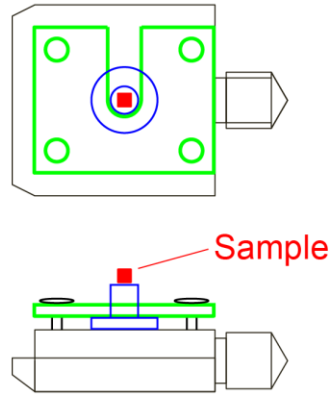
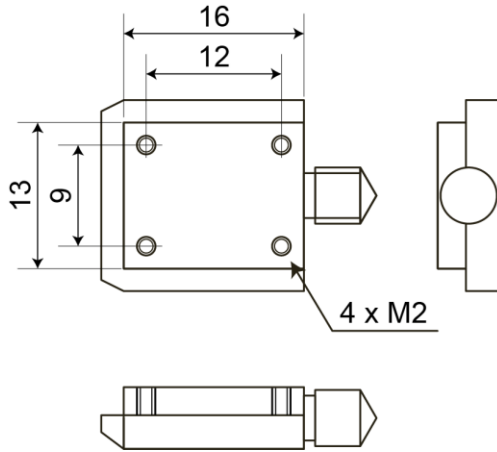


- ❑ Electron gun
  - Erdman-Zipf type
  - Electron energy:  $E_K \sim 20 \text{ eV} - 100 \text{ eV}$
  - Divergence angle:  $\Delta\theta \sim 3 \text{ deg.}$
- ❑ Optical system
  - Spherical non-periodic grating (1200 l/mm)
  - CsI-coated MCP
  - One-dimensional detector
  - Emission energy:  $h\nu \sim 40 \text{ eV} - 100 \text{ eV}$

- ❑ Total  $\Delta E$ :  $\sim 0.5 \text{ eV}$  ( $E_K = 50 \text{ eV}$ )
- ❑ Temperature: 15 K – 400 K
- ❑ Resonant and angle-resolved IPES is available
- ❑ Surface treatment:
  - Cleavage, Filing

**For measurements of the unoccupied electronic structure of solids!**

# Sample holder: Screw type (will be changed to Omicron type in near future)



Up to 10 holders can be installed at the load lock at RIPES station.

Example of angle resolved  
ARPES spectra

Unoccupied band dispersions  
of CDW material 1T-TaS<sub>2</sub>

