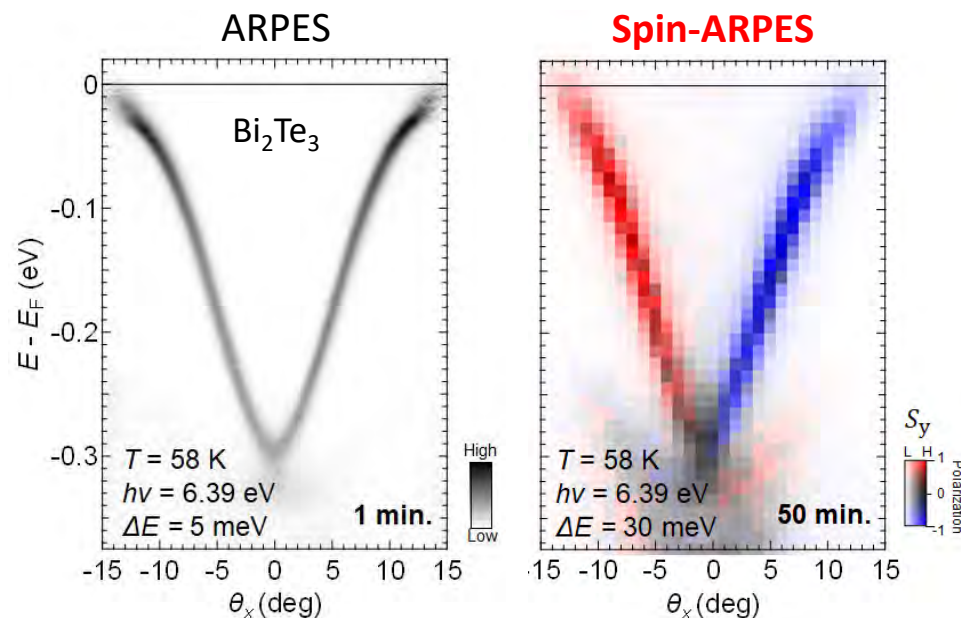
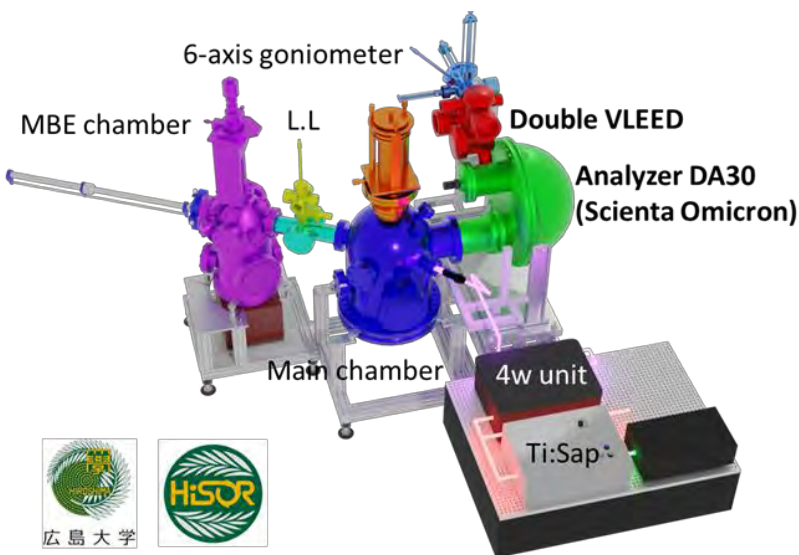


Multidimensional ARPES system with “time-, spin-, energy-, momentum-resolutions”



T. Iwata *et al.*, Sci. Rep. **14**, 127 (2024).

Light source (see also next page):

- fs-laser system ($\Delta t \sim 90$ fs, 100 kHz)
- Probe photon energy: ~ 6.0 eV
- Pump photon energy: ~ 1.5 eV (tunable)

Sample preparation:

- Surface treatment: Spattering/Annealing
- Surface evaluation: LEED/Auger
- MBE system (ex. Bi, Sb, Fe)
- Vacuum suite case is available

Spectrometer:

- Analyzer: SCIENTA OMICRON DA30
- Double VLEED spin detector
- Total ΔE : ~ 30 meV for spin-ARPES

Sample stage

- Sample holder: Omicron type
- Temperature: 10 K – 300 K
- 5-axis sample manipulator
Polar: -15 deg \sim +50 deg
Tilt: -15 deg \sim +15 deg

Contact:
Kenta Kuroda
kuroken224@hiroshima-u.ac.jp

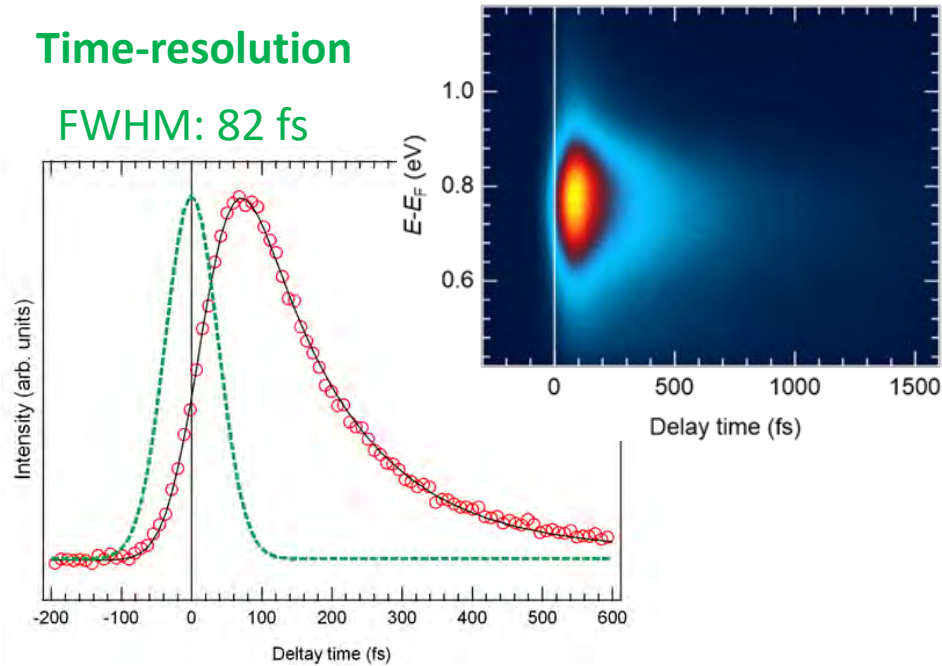
Femtosecond laser system consisting of a Yb regenerative amplifier and an optical parametric amplifier

fs-laser system



Time-resolution

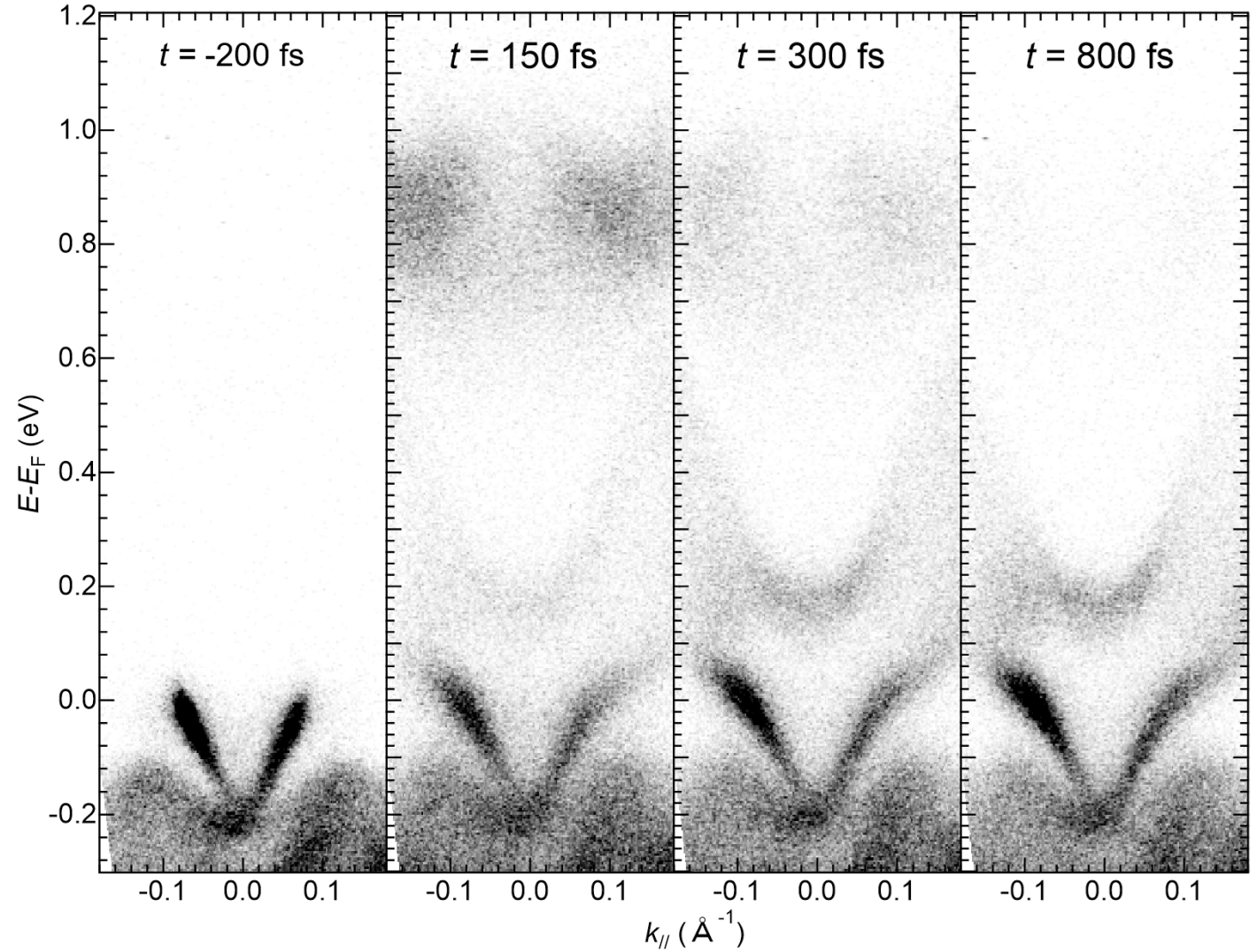
FWHM: 82 fs



Bi_2Te_3

Pump: 840 nm (1.48 eV)

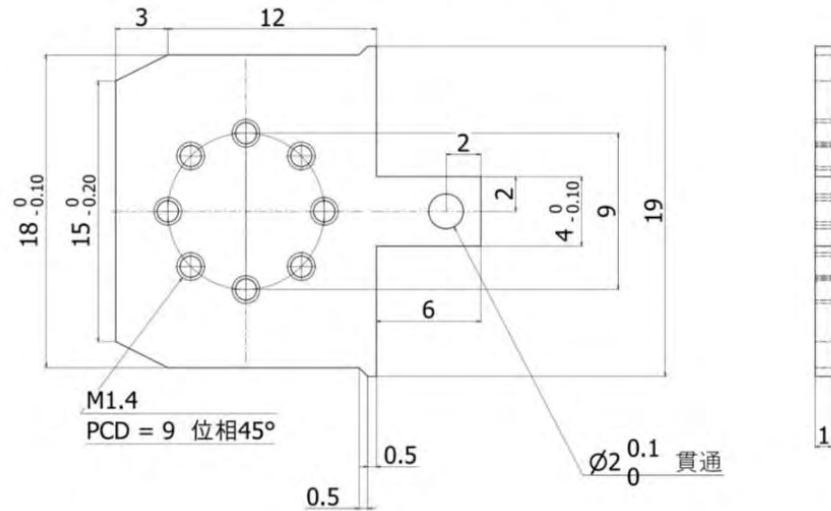
Probe: 210 nm (5.92 eV)



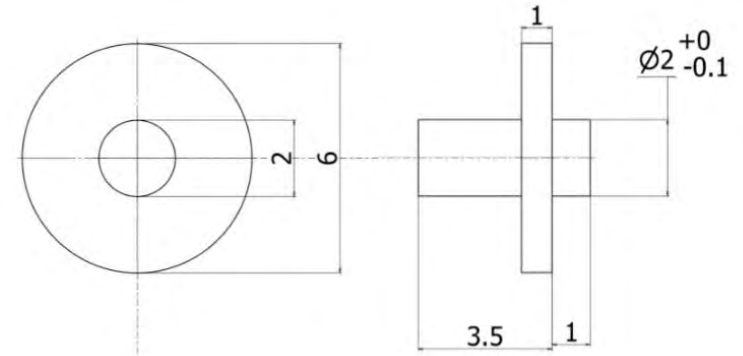
* 2-min scan per ARPES map acquisition

Sample holder designed for in situ cleaving of single crystals

Main holder (Cu)



Sample pin (Al)



Pin-stage (Cu)

