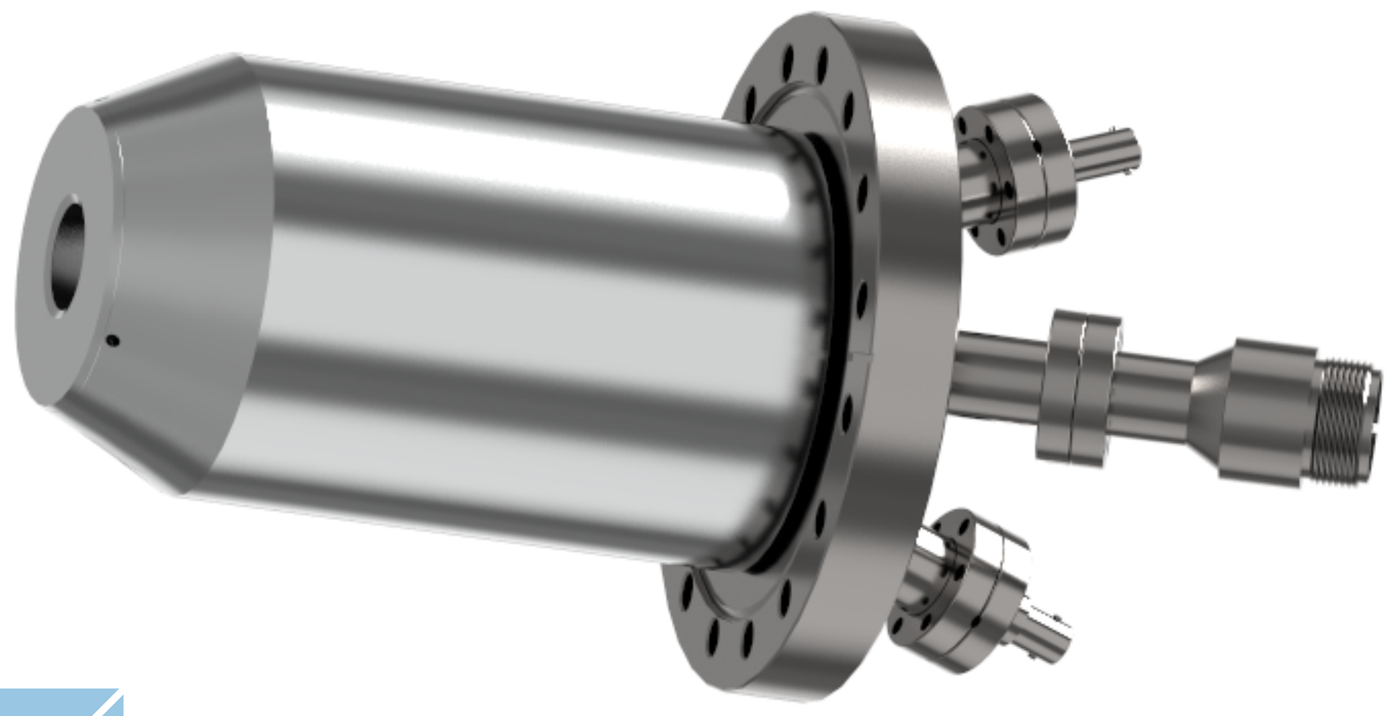
fermiologics
making ARPES simpler

George-Bähr-Str. 20, 01069 Dresden
+49 157 76059669
fermiologics.com

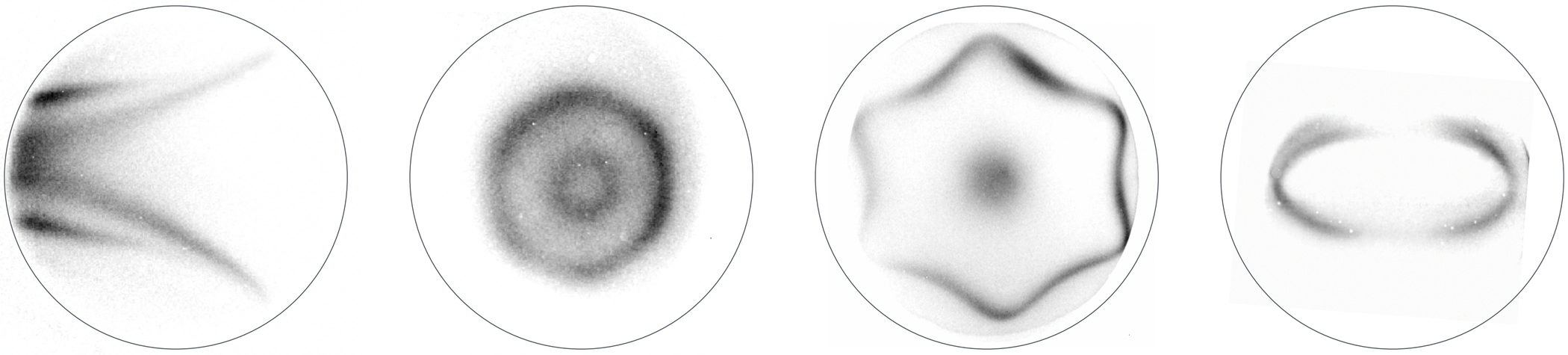
FeSuMa® ARPES Analyzer



Designed, developed and made in Germany

3D-Fermi surface of $TiTe_2$

- ☑ **Live Fermi surface map**
- ☑ **Isotropic angular resolution**
- ☑ **Non-crossing trajectories**

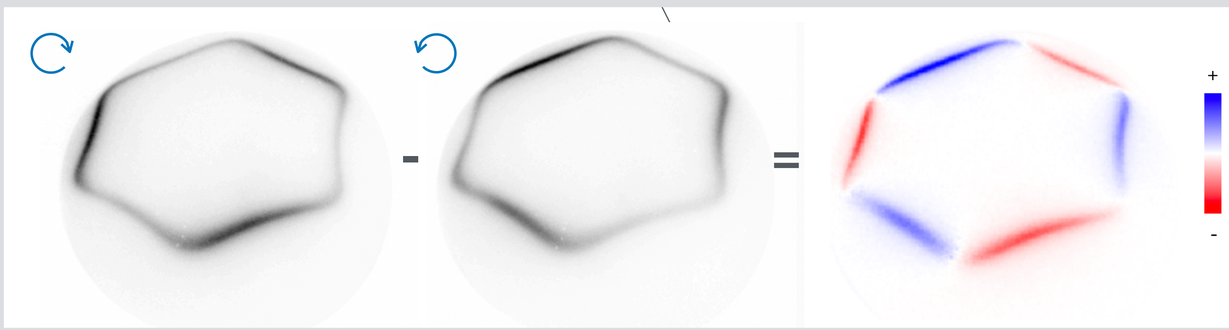


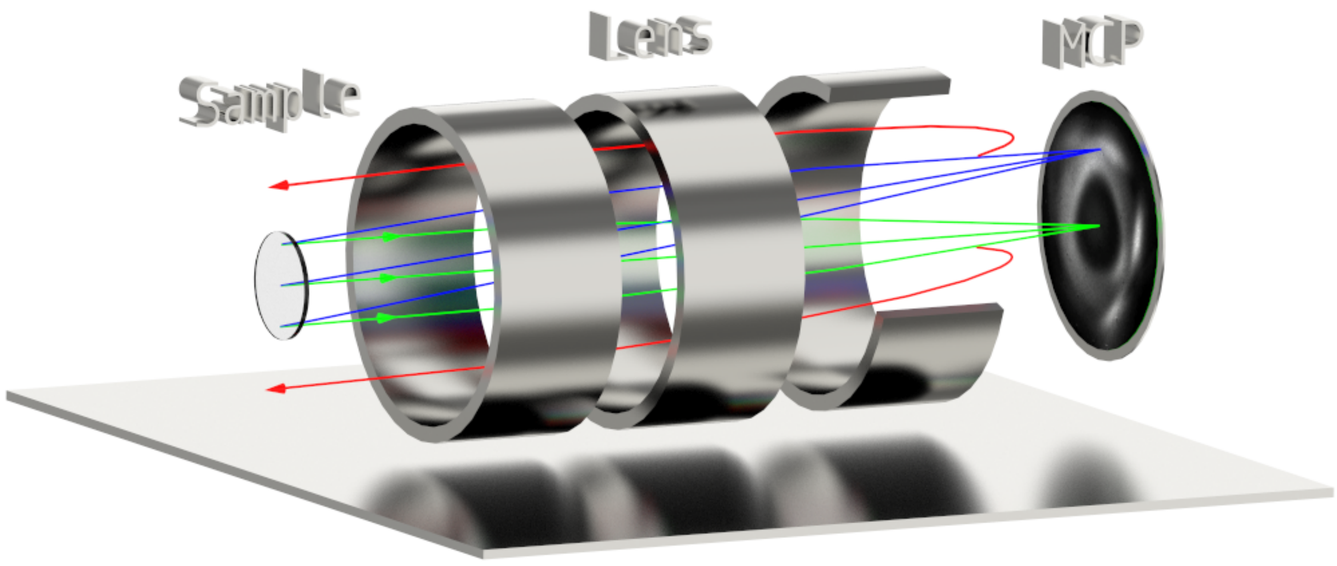
2D-Fermi surface maps of $Bi_2Sr_2CaCu_2O_{8-\delta}$, BiTeI, Bi_2Te_3 and $ZrTe_3$ single crystals

FASTER SIMPLER SMALLER

• All data courtesy of Dr. S. Borisenko, Leibniz IFW-Dresden, Germany •

Circular dichroism of topological surface states in Bi_2Te_3. Measuring time of the whole experiment - 40 seconds.

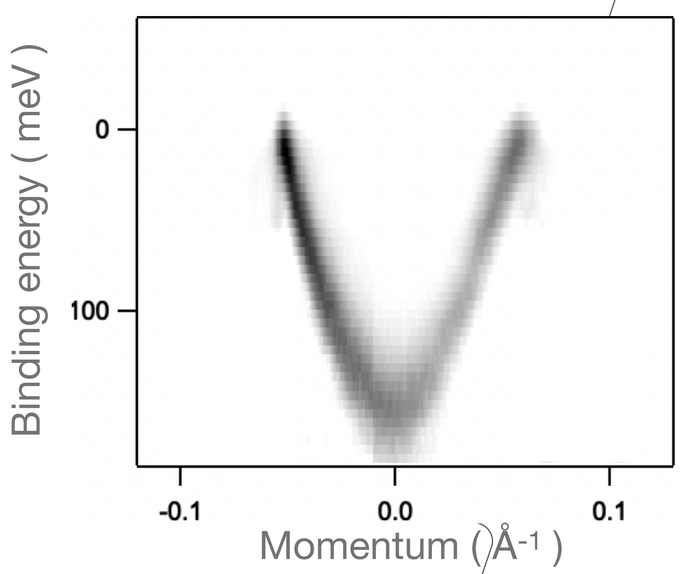




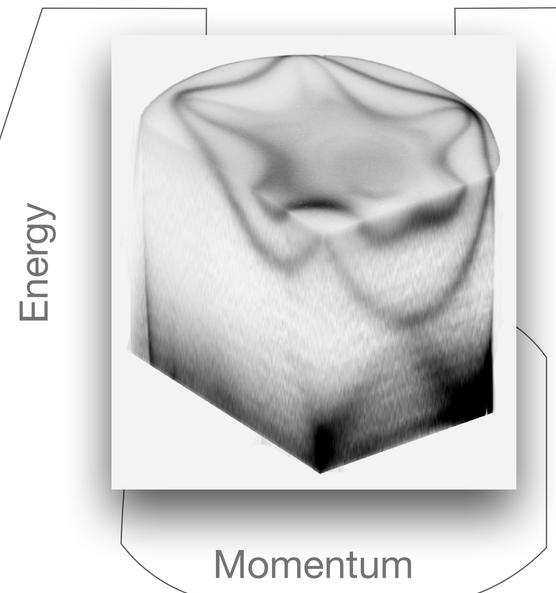
- Patented concept (DE102017130072, US20210090868A1)
- Quick sample quality control
- Stable and low noise electronics
- Quick and precise adjustment
- Best for single crystals and MBE grown films
- Works with laser, synchrotron or gas discharge sources with no higher orders

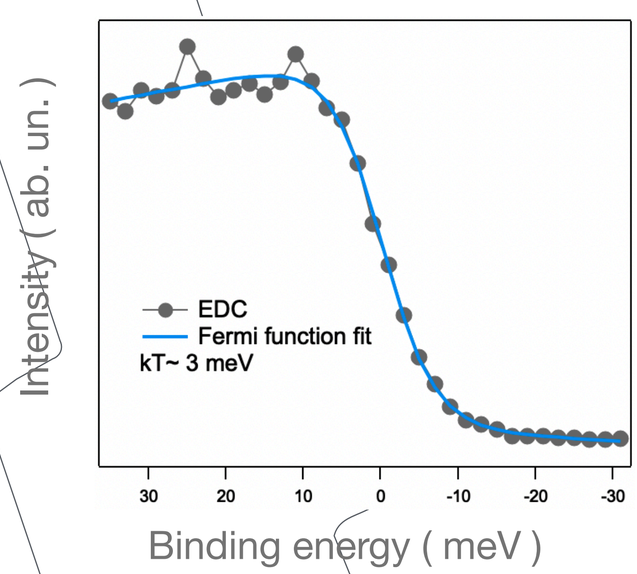
Technical data

- Kinetic energy range: 0.5 eV - 100 eV
- Working distance: 36 mm
- Three Fourier modes: 32°, 28°, 16°
- Direct mode lens acceptance: 36°
- Angular resolution in Fourier modes - better than 0.2° for < 0.5 mm sample
- Fits DN100CF (6,00" OD) flange with required length (20-35 cm)
- Overall energy resolution demonstrated so far is 12 meV (single crystal at 3K, Fourier 28° mode, hν=6 eV)
- 2D spatial resolution in direct mode ~10 μm
- Effective detector area > 99%
- Bakeable to 150 °C
- Computer control via Igor Pro based Fermiologics procedures



Mapping of the underlying band structure in Bi_2Te_3





EDC close to k_F in LiFeAs

video

preprint

animation

website