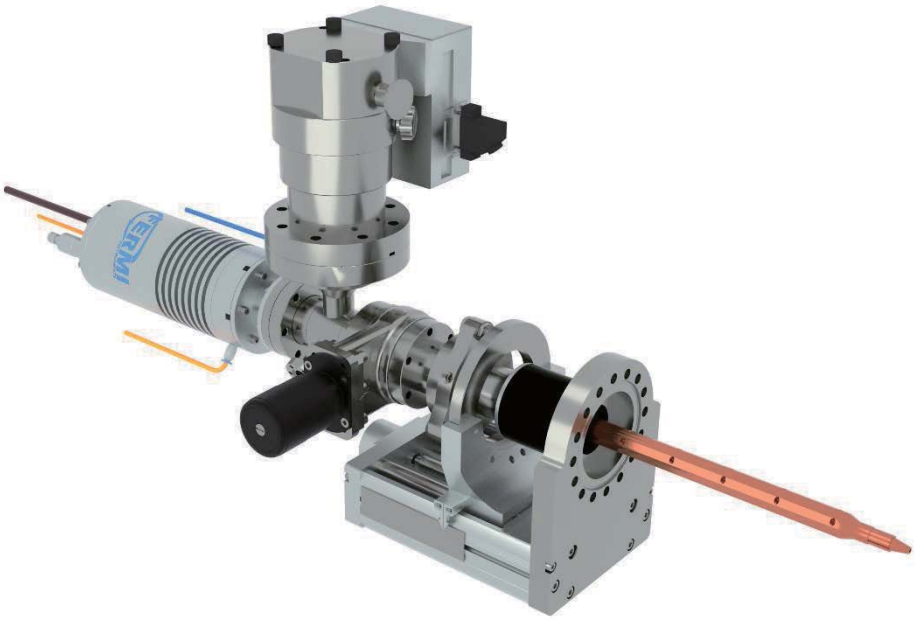


Section 7. VUV Source

7.1 Multi-Gas Ultra-High Flux VUV Source

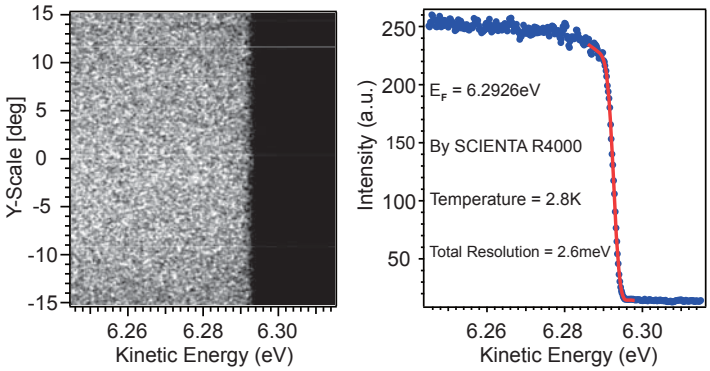
7.2 Focused VUV Source

VUV Sources

Description

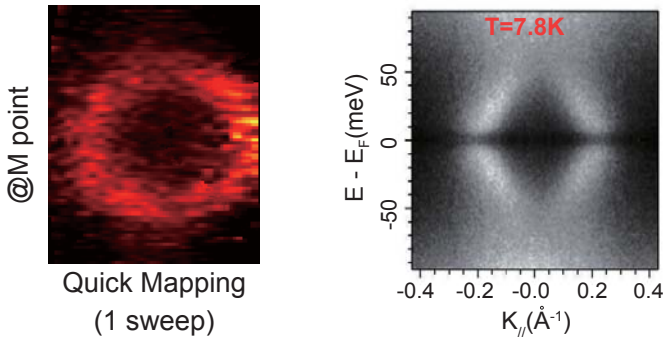
The new FERMI BL-1000 is an ultra-high efficiency UV source based on revolutionary local field plasma mechanism, integrated with latest solid RF source technology. Providing orders of magnitude higher efficiency than traditional plasma-base UV sources. BL-1000 is an electrode-free and ignite-free universal UV source, which can work with various gases and gas mixture. Providing broad applications, such as photoemission spectroscopy, mass spectroscopy, atomic absorption spectroscopy *etc*.

Gold Thin Film Test @ Kr(10.65eV)



Courtesy of Prof. H. Ding's system in IOP, CAS

FeSe Thin Film Test @ He(21.2eV)

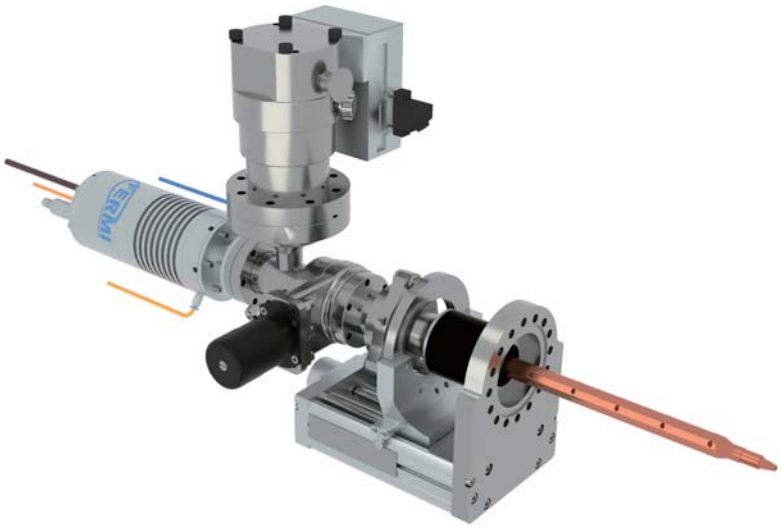


Courtesy of Prof. D.L. FENG's system in Fudan University

Specification

- **Multiple Working Gases**
  He, Ne, Ar, Kr, Xe, …
- **Photon Energy**
  8.4eV - 40.8eV (30nm - 147nm)
- **Photon Flux**
  - Total VUV Flux: >1x10^{14} Photons/sec
  - > 10^{12} Photons/sec @1mm^2 sample
    with appropriate monochromator and capillary
- **Resolution**
  < 1meV@Xe(8.43eV)
- **Power Supply**
  Compact solid RF source driven by 24V/200 W power source
- **UHV Compatible All Metal Seals**

VUV Sources

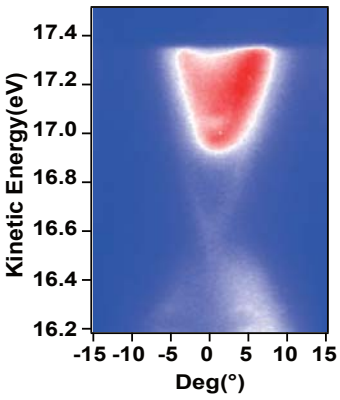


Description

FIUV BL-1010s is a specially designed high brilliance multi-gas VUV source with three-stage differential chamber and UHV valve isolated focusing capillary. It can be operated with a wide variety of different gases (He, Ne, Ar, Kr, Xe …) with small spot output and little working pressure increment.

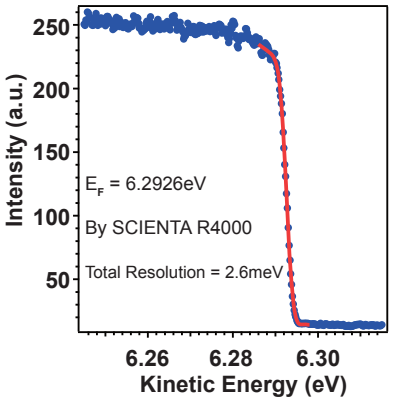
Test Spetrum

He(21.2eV):
Bi_2Se_3@5.6K



Courtesy of Prof. Yihua Wang's system in Fudan University

Kr(10.65eV):
Gold Film@2.8K



Courtesy of Prof. H. Ding's system in IOP, CAS

Specification

- **Total VUV Flux: >3 x 10^{13} photons/sec**
- **Spot size: ~0.5mm**
- **Line Width: <1meV @Xe(8.43eV)**
- **Three-Stage differential pumping**
- **High efficiency focus and transfer capillary**
- **Full Set RF Generator,cable and power supply**
- **Compulsry air cooling and water cooling**
- **All-metal-sealed source with UHV compatible**

Option: Supporting Frame

- **Retractable mechanism**
  - 75mm Linear Translator
- **Alignment Mechanism**
  - Tilt mechanism: ±3°

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