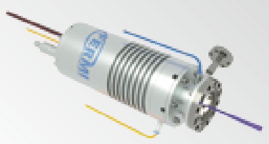
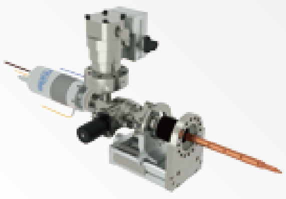
Section 7. VUV Source

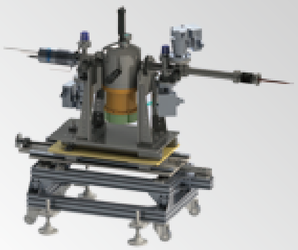
BL1000S
(VUV Lamp Head)



BL1010S
(Xe/ Kr)



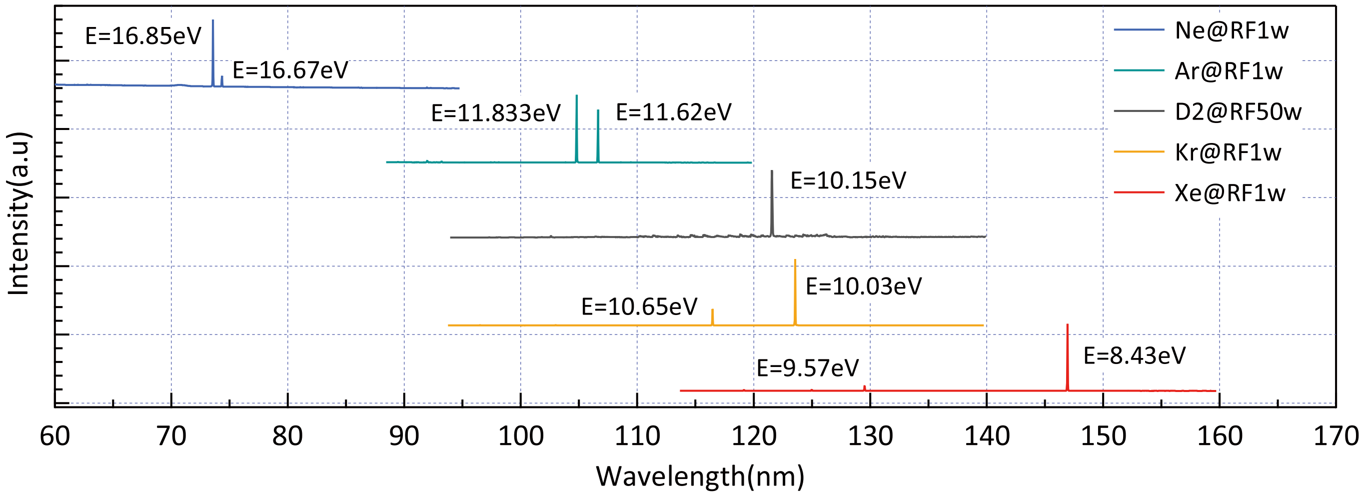
BL1100S
(He MONO)



BL1200S
(Mlti-gas MONO)

FERMI BL-1000 Series are ultra-high brilliance VUV Light Sources, based on the revolutionary RF Plasma mechanism, which can be operated with different gases (He, Ne, Ar, Kr, Xe...) and gas mixture. (Patent No.: 201610261838.5)

Broad Spectrum



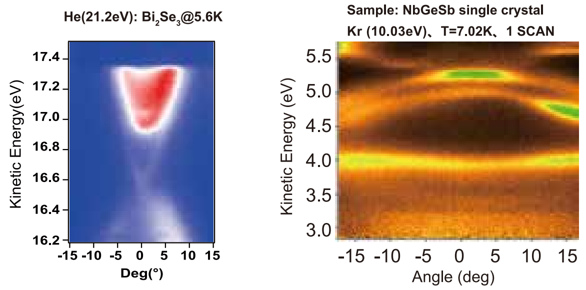
Applications

- ✓ UPS, ARPES, Mass Spectroscopy, etc.

Specification

- ✓ High Flux: ＞1×10^{14} Photons / Sec
- ✓ Broad Sepctrum: 8.43eV-40.8eV(30nm-147nm)
- ✓ High Resolution: ＜1meV@8.43eV(Xe)
- ✓ Long Life Time: ＞20000 hours
- ✓ Options: Focuse Optics (0.5mm spot size), Replaceable Filters(Xe@8.43eV, Kr@10.03eV), VUV MONO;

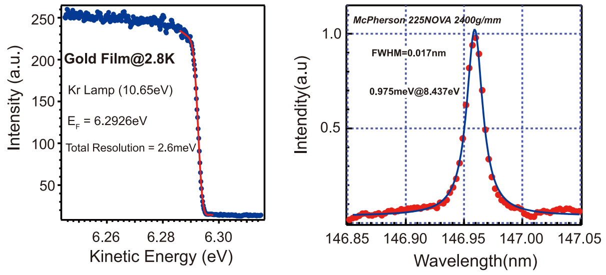
High Brilliance (VUV Flux>$1\text{x}10^{14}$ photons/sec)



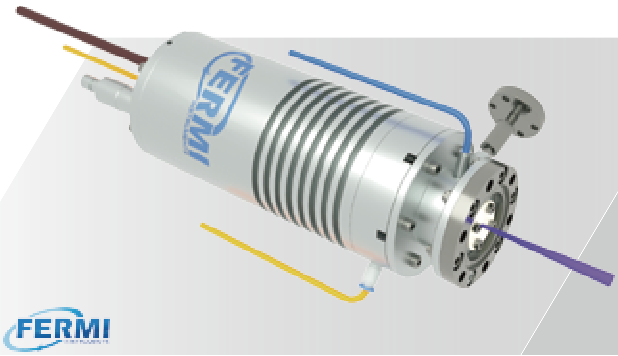
Courtesy of Prof. Y. H. Wang's system in Fudan University

Courtesy of Prof. S. C. Wang's system in Renmin University

High Resolution (<1meV@8.43eV)



Multi-Gas Ultra-High Flux VUV Source



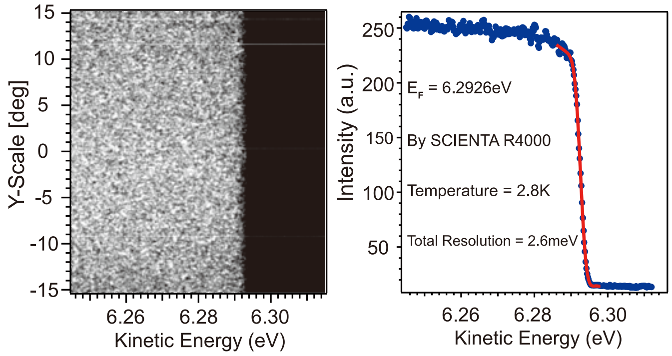
The new FERMION BL-1000 is an ultra-high efficiency UV source based on revolutionary plasma local field mechanism, integrated with latest solid RF source technology. Providing orders of magnitude higher efficiency than traditional plasma-base UV sources.

BL-1000 is an electrode-free and ignite-free universal UV source, which can work with various gases and gas mixture. Providing broad application, such as photoemission spectroscopy, mass spectroscopy, atomic absorption spectroscopy etc.

Specification

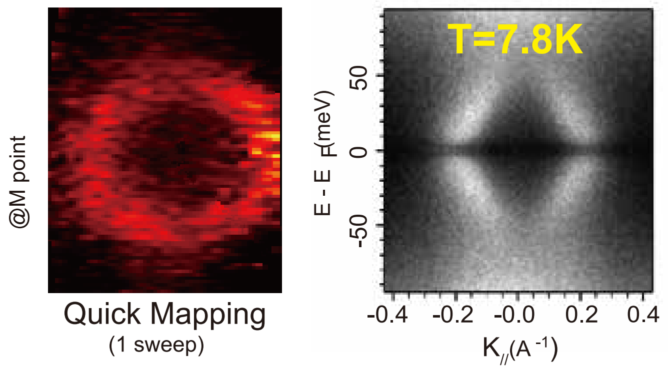
- ✓ Multiple Working Gases: He, Ne, Ar, Kr, Xe,...
- ✓ Photon Energy: 8.4eV-40.8eV(30nm-147nm)
- ✓ Photon Flux:＞1×10^{14} Photons/ Sec with appropriate monochromator and capillary
- ✓ Resolution: ＜ 1meV@Xe (8.43eV)
- ✓ Compact solid RF source driven by 24V/200W power source
- ✓ UHV Compatible All Metal Seals

Gold Thin Film



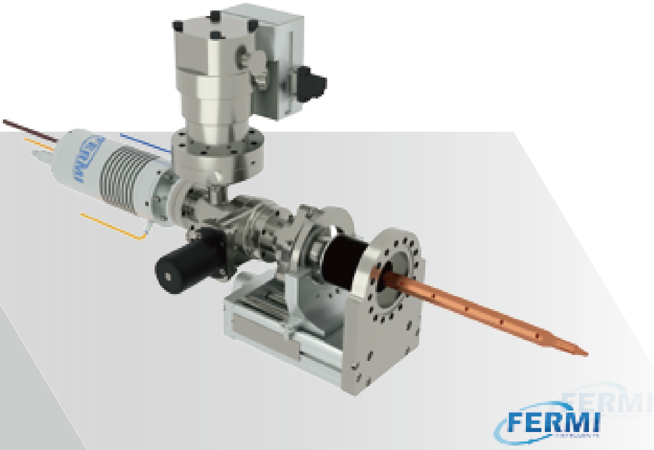
Courtesy of Prof. H. Ding's system in IOP, CAS

FeSe Thin Film



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

Focused VUV Source



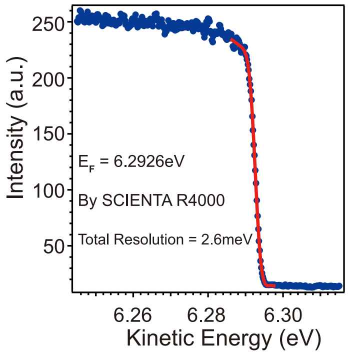
FIUV BL-1010s is a specially designed high brilliance multi-gas VUV Source with three-stage differential chamber and UHV vale isolated focusing capillary. It can be operated with a wide variety of different gases(He, Ar, Kr, Xe...) with small spot output and small working pressure increment.

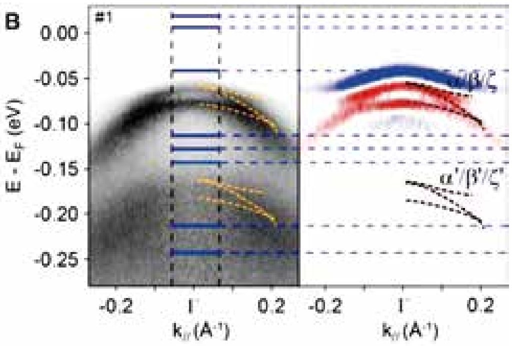
Specification

- ✓ Total VUV Flux: ＞3×10^{13} Photons/ Sec
- ✓ Photon Flux: ＞1×10^{12} Photons/ Sec on Sample
- ✓ Line Width: ＜1meV @Xe(8.4eV)
- ✓ Three-Stage differential pumping
- ✓ High efficiency focus optics
- ✓ Retractable mechanism: 75mm Linear Translator
- ✓ Alignment Mechanism: Tilt mechanism: ± 3°
- ✓ Solid RF Power Supply
- ✓ Compulsry air cooling and water cooling
- ✓ All-metal-sealed, UHV compatible

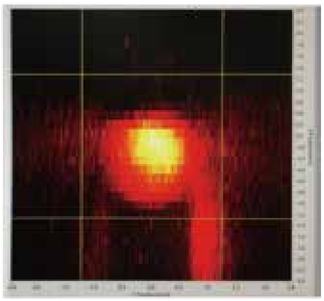
Test Spetrum

Kr(10.65eV):
Gold Film@2.8K





Spot size on sample
0.5mm-1mm



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

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