Y-Fi VUV

Unprecedented flexibility on ultrafast time scales

The first discretely tunable tabletop VUV laser source for angle-resolved photoemission spectroscopy

Applications

- Angle-resolved photoemission spectroscopy (ARPES)
- Time-resolved ARPES
- Photoemission electron microscopy (PEEM)
- Photo-ionization mass spectroscopy (PIMS)
- Molecular time-of-flight (ToF) studies
- Applications that require tunable VUV light
- Applications that require femtosecond pulses of VUV light

Features

- Discretely tunable between 6.0–10.8 eV
- Highly focusable
- High energy resolution (<10 meV)
- Large k-space coverage
- High momentum resolution
- Ultrafast

After being dispersed with a lithium fluoride prism, the bright VUV beams generated by the Y-Fi VUV induce bright fluorescence on a Ce:YAG scintillator. In the commercial Y-Fi VUV, a monochromator selects a single wavelength to deliver to the users experimental chamber.

Probe material and molecular properties with unprecedented flexibility on ultrafast time scales

Y-Fi™ VUV is the first tunable commercial femtosecond source in the vacuum ultraviolet (VUV) region. Discretely tunable from 6.0–10.8 eV, Y-Fi VUV enables you to study a wide range of materials and materials properties. For example, in angle-resolved photoemission (ARPES) experiments, this tunability allows researchers to distinguish surface effects from bulk effects. For time-of-flight (TOF) studies of molecules, the tunability can distinguish otherwise identical isomers.

Y-Fi VUV is "application ready," with appropriate focusing and beam-steering elements that will enable fast integration with your experimental apparatus. Y-Fi VUV can also be used with a window between the source and the experimental chamber, guaranteeing that applications demanding ultrahigh vacuum (such as ARPES) will remain contamination-free.

Y-Fi VUV Benefits

- **Discrete tunability** of the **photon energy** overcomes the limitations of fixed wavelength sources, bringing the power of the synchrotron to the laboratory
- Highly focusable appropriate optics can achieve spot sizes below 10 μm to allow you to examine new types of samples, including materials that are polycrystalline, spatially inhomogeneous, faceted, or simply very small
- Pulse durations below 250 femtoseconds to probe ultrafast dynamics of molecules and materials
- 1 MHz repetition rate enables rapid data collection and avoids space-charge effects

KMLABS™ inc.

www.kmlabs.com • 303-544-9068 • 4775 Walnut St., Suite 102 • Boulder, CO 80301