

## XUV Spectrograph

Our XUV spectrograph features an aberration-corrected flat-field wavelength coverage from 5nm to 80nm using a single grating. In the range between 10 and 80nm, the spectrometer can be used without entrance slit over a range of source distances to maximize light collection. Its modular design is able to match different experimental geometries and configurations. It features an integrated slit holder and filter insertion unit, as well as a motorized grating positioning.



### Characteristics:

Wavelength [nm]	5 to 20	10 to 60	25 to 80
Operation Mode	entrance slit	slitless	slitless
Source distance [m]		0.4 to 0.6	0.5 to 1.5
Flat-Field size [mm]	25.4	50	50
Dispersion [nm/mm]	0.5 to 0.7	0.7 to 1.1	0.9 to 1.3
Resolution [nm]	≈ 0.06	≈ 0.09	≈ 0.11

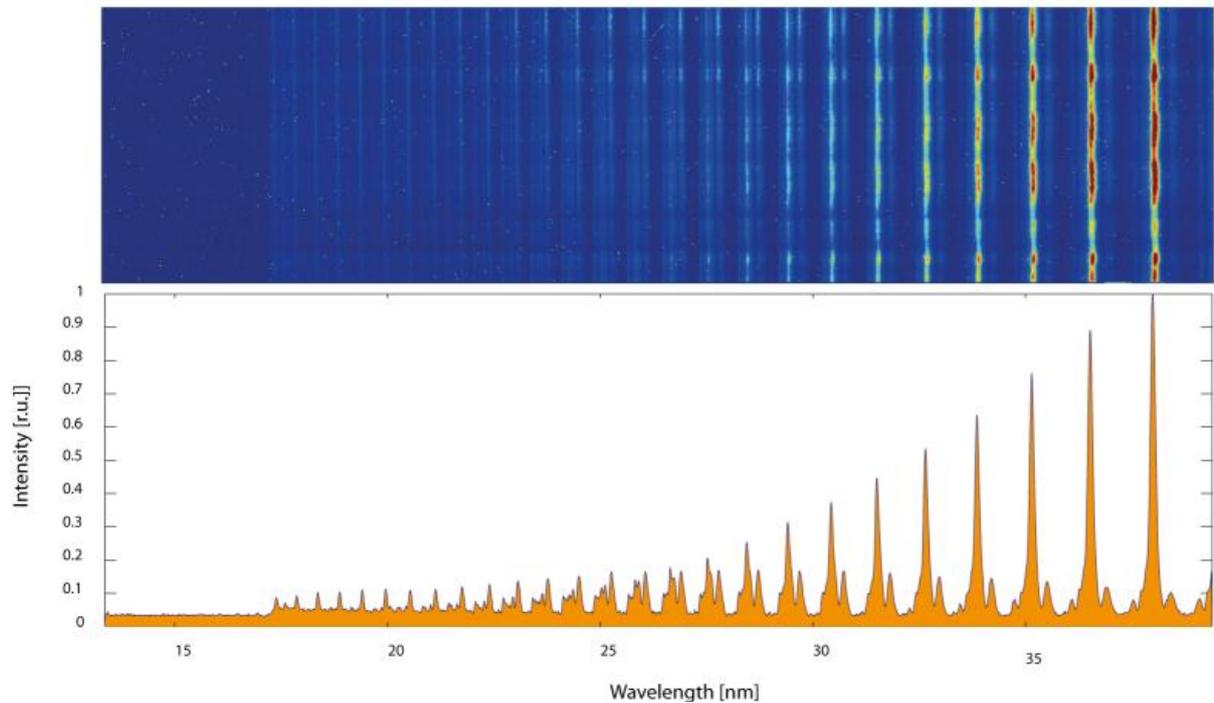
- Wavelength range 1nm to 15nm with separate grating
- Configurations for other source distances available

UltraFast Innovations is a spin-off from the Ludwig-Maximilians-Universität Munich and the Max Planck Society.

contact • Am Coulombwall 1  
85748 Garching  
internet • [www.ultrafast-innovations.com](http://www.ultrafast-innovations.com)  
management • Dr. Hans Koop  
legal seat • Garching b. München  
amtsgericht münchen • HRB 180532

bank details • Deutsche Bank  
account no. • 22 66 401  
bank code • 700 700 24  
iban • DE06 700 700 240 226640100  
bic • DEUT DE DBMUC  
tax id no. • DE266162317

As a sample measurement, the plot below demonstrates the capabilities of our XUV spectrometer. It shows a high harmonic spectrum generated by the interaction of a single femtosecond laser pulse with a solid target and subsequent spectral filtering. The top panel displays the raw image recorded by the x-ray CCD camera, whereas the bottom panel shows the harmonic spectrum obtained by column binning. The substructure inherent to the generation process is clearly resolved by the XUV spectrometer.



*Highlights:*

- Flat-field grazing-incidence spectrograph
- Wavelength range coverage from 5 to 80 nm with a single grating
- Optional wavelength range 1 to 5 nm
- Three different geometry options
- Flexible choice of detectors: x-ray CCD-camera or MCP/fiber taper system
- Operating pressure  $<10^{-6}$  mbar  
Oil-free pump system for stand-alone vacuum operation optionally available
- Customizable according to user requirements

UltraFast Innovations is a spin-off from the Ludwig-Maximilians-Universität Munich and the Max Planck Society.

contact	• Am Coulombwall 1 85748 Garching	bank details	• Deutsche Bank
internet	• <a href="http://www.ultrafast-innovations.com">www.ultrafast-innovations.com</a>	account no.	• 22 66 401
management	• Dr. Hans Koop	bank code	• 700 700 24
legal seat	• Garching b. München	iban	• DE06 700 700 240 226640100
amtsgerecht münchen	• HRB 180532	bic	• DEUT DE DBMUC
		tax id no.	• DE266162317