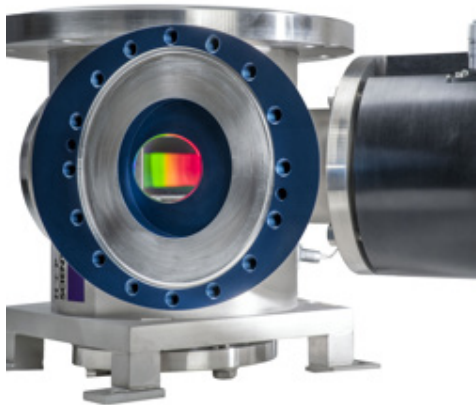


easyLIGHT

Innovative VUV and XUV spectrographs



easyLIGHT VUV



easyLIGHT XUV

Applications

- High harmonic generation (HHG) radiation
- High intensity laser-matter interaction
- Undulator and free-electron-laser (FEL) radiation
- Magnetically confined plasmas
- Fusion research
- Characterization of line-emission sources

Our easyLIGHT spectrographs provide aberration-corrected wavelength coverage in the vacuum and extreme ultraviolet spectral regions. Based on a normal-incidence geometry, the high-efficiency flat-field gratings provide wide-band spectral measurements covering 30 to 200 nm (easyLIGHT XUV) and 100 to 300 nm (easyLIGHT VUV), respectively.

The easyLIGHT VUV offers both spectrograph and monochromator functionality. The high-efficiency grating can be rotated about its axis by a high-accuracy positioning system resulting in a wavelength selection accuracy of < 0.1 nm.

The slit width can be set in the range of 10 μm to 4 mm by micrometer screws or a motorized actuator (optional).

The easyLIGHT XUV can be used without entrance slit to maximize light collection for a range of source distances.

Versatility easyLIGHT VUV

- Spectrograph and monochromator in one device
- Slits continuously adjustable manually or motorized (optional)
- Compact and cost-effective

Versatility easyLIGHT XUV

- Images the source directly onto the detector, does not require an entrance slit
- ~20 times more light collection than standard versions, resulting in a signal-to-noise figure improved by the same ratio
- In some experiments, this improved signal strength is the crucial step for realizing a measurement at all.

Special solutions

- Non-magnetic instruments
- UHV configurations
- Other options available

Efficiency and accuracy

- High accuracy wavelength selection by closed-loop micro-precision grating actuator (easyLIGHT VUV)
- Absolute grating position monitoring for maintaining grating alignment (easyLIGHT XUV)
- Grating positioning controllable by software
- Highly efficient and aberration corrected gratings
- Double stray-light filter for easyLIGHT XUV

Customization

Every spectrometer is customized to exactly match the desired application, e. g.:

- Interfacing to experimental chambers
- Adaption of the source distance
- Integration of customer-supplied detectors
- User-defined filter mounts

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Innovative VUV and XUV spectrographs

	easyLIGHT VUV	easyLIGHT XUV
Normal-incidence spectrograph	•	•
Normal-incidence monochromator	•	
Flexible choice of detectors	•	•
Operating pressure < 10 ⁻⁶ mbar	•	•
Customizable according to user requirements	•	•
Proprietary slit-less design for high efficiency		•
Motorized grating rotation	•	•
Filter insertion unit		optional
Vacuum gate valve		optional
Slit continuously variable	•	optional

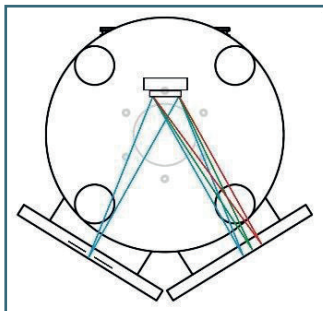
	easyLIGHT VUV	easyLIGHT XUV
Wavelength [nm]	100 - 300	30 - 200
Input	slit	slit-less
Source distance [m]	flexible	flexible
Dispersion [nm/mm]	~ 4.0	~2.0
Resolution [nm]	< 0.1	< 0.1
Wavelength accuracy [nm]	< 0.1	*
Deviation angle [°]	64	94
Focal length [mm]	200	*
Aperture [F/#]	4.2	*
Black coating for reduced straylight	optional	optional

* Depending on source distance.

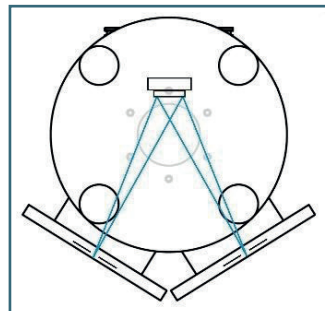
Other configurations (spectral range, etc) available upon request.



Operation modes

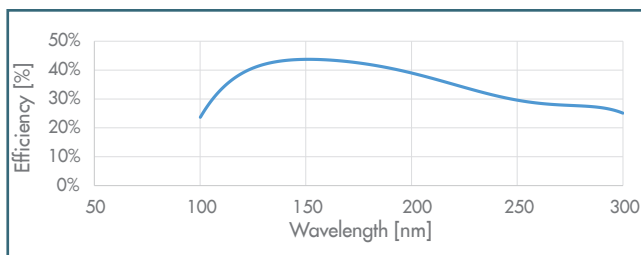


Flat-field spectrograph:
easyLIGHT VUV
easyLIGHT XUV

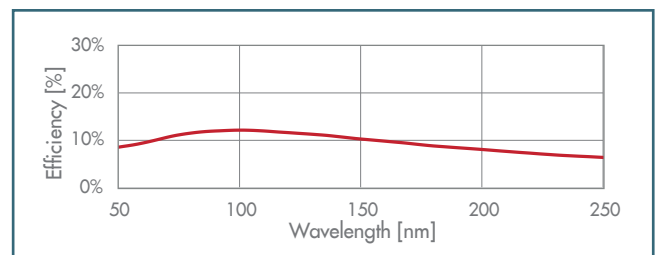


Scanning monochromator:
easyLIGHT VUV

Grating efficiency



easyLIGHT VUV



easyLIGHT XUV