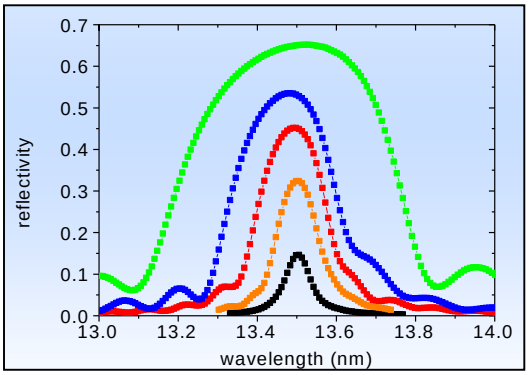
EUV narrowband mirrors

Motivation:

Standard multilayer mirrors for the EUV spectral range reflect in a narrow wavelength range and are therefore useable as monochromators (typical: $\Delta\lambda \approx 0.5$ nm at $\lambda = 13.5$ nm), however with a low resolution. New coating designs developed at optiX fab allow to improve the resolution considerably.

Applications:

- HHG separation
- Monochromators for EUV sources
- spectroscopy, e.g. in astrophysics
- Characterization of plasma sources



reflection order	FWHM (nm)	R (%)
1st	0.486	68.0
2nd	0.277	53.5
3rd	0.188	45.3
5th	0.121	32.4
10th	0.077	14.6

Reflection of EUV narrowband mirrors at the wavelength 13.5 nm measured at the reflectometer of the PTB at the synchrotron BESSY II in Berlin. The Full Width at Half Maximum (FWHM) is reduced significantly in high reflection orders. The reflectivity also decreases due to higher absorption. Therefore, the optimum coating design must be found out as a compromise between the requirements for the reflectivity and the FWHM.

Our Offer:

- design and fabrication of customized narrowband EUV multilayer mirrors
- Optimization for different of wavelengths and angles of incidence
- different substrates possible

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August 2017