

over the whole photon energy range from 270 eV up to 2.5 keV. The optical layout was chosen in such a way that it delivers a round shaped illumination of the condenser. In addition to this new beamline design, we will present results of the metrology measurements [6,7] of the new optical elements installed in the beamline as well as the first at wavelength measurements.

At wavelength measurements shown in Fig. 2 show the high grating efficiency within the photon energy range (170 eV – 1.8 keV) provided by the U41. Figure 3 shows the measured flux curves for the first, third, fifth and seventh undulator harmonic.

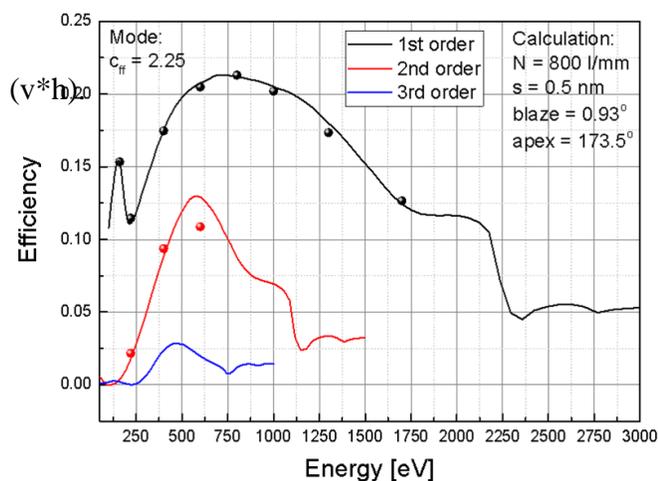


Figure 2. Efficiency measurement of the 800 l/mm plane grating having a blaze angle of 0.93° were performed with the reflectometer of the BESSY II (HZB) Optics beamline (PM1) [8]. The beam size during the measurement was $0.36 \times 0.2 \text{ mm}^2$ (v*h) and the detectors aperture were $0.14 \times 4 \text{ mm}^2$ (v*h).

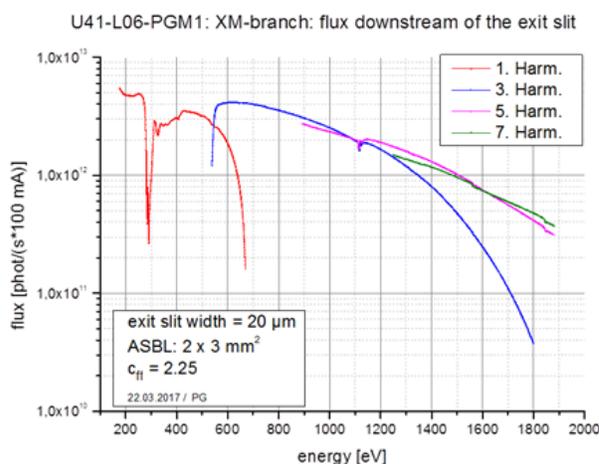


Figure 3. Flux curves measured directly downstream of the exit slit with typical parameter settings of the front end aperture (ASBL), monochromator (c_{ff} -value) and exit slit width.

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