Progress on the development of single-order diffraction grating for soft x-rays

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All existing x-ray dispersive devices including crystals, multilayers and diffraction gratings generate spectra in multiple orders, whereas soft x-ray spectroscopy applications usually require only the first order spectrum. The other diffraction orders can overlap and contaminate the first order spectrum of interest. Such issue is also crucial for synchrotron beam line monochromatization. Higher-order diffractions of diffraction grating may introduce boring higher-order harmonic contamination to the beam when it is used as a monochromator. Here in this presentation the authors report their achievements and progress on the development of single-order diffraction grating for soft x-rays.

References

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