

X-ray dynamical diffraction wavefront division interferometer (double-slit diffraction) with an asymmetric monochromator. Corrigendum

Vahram Mkrtchyan, Minas Balyan,* Sargis Petrosyan and Ashot Aivazyan

Institute of Physics, Yerevan State University, Alex Manoogian 1, Yerevan, 0025, Armenia. *Correspondence e-mail: mbalyan@ysu.am

Received 23 February 2026

Accepted 2 March 2026

Edited by I. A. Vartanians, Deutsches Elektronen-Synchrotron, Germany

Keywords: X-ray wavefront division interferometer; X-ray double-slit experiment; X-ray monochromator; X-ray dynamical diffraction.

An error in the article by Mkrtchyan *et al.* [*Acta Cryst.* (2025), **A81**, 438–448] is corrected.

In the paper by Mkrtchyan *et al.* (2025) after formula (42) of Appendix B the statement $\mathbf{K}_0(\lambda) = \mathbf{K}_{h_1}(\lambda)$ is true for all wavelengths only when the reflections in the monochromator and the interferometer crystal are the same. Otherwise $\mathbf{K}_0(\lambda) = \mathbf{K}_{h_1}(\lambda)$ is true only for a selected wavelength and will be violated for other wavelengths. Thus, throughout the paper the case of the same reflections in the monochromator and the interferometer crystal must be considered. Accordingly, Figs. 4(a) and 4(b) must be presented for the same Si(440), Mo $K\alpha$ for both the monochromator and interferometer crystals instead of Si(440), Mo $K\alpha$ in the monochromator and Si(220), Mo $K\alpha$ in the interferometer crystal. The parameters are the same as in Section 7.2 of Mkrtchyan *et al.* (2025), but the source-to-monochromator distance is taken to be $L_s = 1$ m and the thickness of the interferometer crystal is $z = 3$ mm, the calculated period of the fringes will be 0.594 mm. Figs. 1(a) and 1(b) in this corrigendum replace Figs. 4(a) and 4(b) of Mkrtchyan *et al.* (2025).

References

Mkrtchyan, V., Balyan, M., Petrosyan, S. & Aivazyan, A. (2025). *Acta Cryst.* **A81**, 438–448.

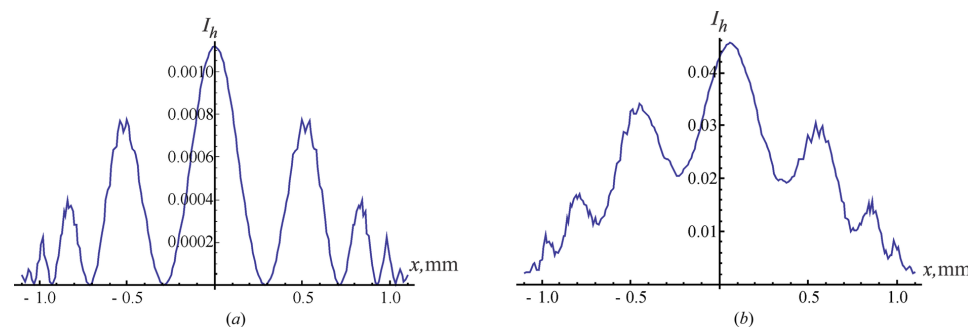


Figure 1

Intensity distribution in a Si(440) Mo $K\alpha$ reflection wavefront division interferometer using a Si(440) asymmetrical reflection monochromator, $b = 0.026$. (a) Interference fringes for the central point source with $\xi_s = 0$ and $\Delta\lambda = 0$. (b) Intensity distribution for an extended incoherent and non-monochromatic source. Interference fringes are observed.