Published by IOP Publishing for Sissa Medialab
Received: *June 26, 2017*
Accepted: *June 28, 2017*
Published: *July 13, 2017*

Addendum: The hard X-ray Photon Single-Shot Spectrometer of SwissFEL — initial characterization

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Addendum to: 2017 JINST 12 P05024

Abstract: We update a figure caption and the acknowledgements.

As evaluated in [1], and described in [2], the diffraction gratings require supporting structures to prevent collapse during the nanolithography process.

Figure 6. Left: SEM image of a grating structure (200 nm pitch), containing the supporting structure. Right: image at the detector, illustrated for clarification of the effects. Note, the intensity scale is logarithmic; the dynamic range of the detection system consists of 11 orders of magnitude of intensity difference (picture taken at P10 beamline, PETRA III, courtesy of N. Kujala, European XFEL GmbH [3]).

Acknowledgments

The authors would like to thank the beamline staff of P10 beamline at PETRA III for the opportunity to perform tests of the diamond gratings, utilized for single-shot spectrometry as diagnostic tool for X-ray Free Electron Lasers.

References

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[2] M. Makita, P. Karvinen, V.A. Guzenko, N. Kujala, P. Vagovic and C. David, *Fabrication of diamond diffraction gratings for experiments with intense hard X-rays*, *Microelectr. Eng.* **176** (2017) 75.

[3] N. Kujala et al., *Characterizing transmissive diamond gratings as beam splitters for the High Resolution hard X-ray single shot spectrometer for the European XFEL*, in preparation (2017).

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https://doi.org/10.1088/1748-0221/12/07/A07001

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