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Cite as: Review of Scientific Instruments 60, 2503 (1989); <https://doi.org/10.1063/1.1140711>

Published Online: 19 August 1998

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Fast, Sensitive and Reliable Leak Detection: ASM 340

PFEIFFER VACUUM

## Focusing properties of Bragg-Fresnel lens in white spectrum of synchrotron radiation (abstract)<sup>a)</sup>

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(Presented on 31 August 1988)

The investigation results on details of the imaging by Bragg-Fresnel lens (BFL) in white spectrum of synchrotron radiation are presented. BFL was fabricated on a silicon single crystal with the reflecting plane (III) by the methods of microlithography and plasma-chemical etching. The relief depth of the zone structure was  $3\ \mu\text{m}$ , the last zone was  $0.5\ \mu\text{m}$  in size, the total width of the zone plate was  $200\ \mu\text{m}$ . The superconducting wiggler installed at the storage ring VEPP-2M was used as a source of synchrotron radiation. The experimental results on the radiation focusing at different wavelengths ( $\lambda = 1 \div 2.5\ \text{\AA}$ ) were obtained. The results include the focusing both in- and outside the focal plane of the zone plate. The results are also presented on an observation of the focusing in antibragg diffraction geometry when the orientation of Fresnel zones coincides with the vertical section of initial incident beam of radiation. The obtained results are treated analytically.

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<sup>a)</sup> A complete account of this work has appeared in the AIP Conference Proceedings. V. V. Aristov, A. A. Snigirev, Yu. A. Basov, and A. Yu. Nikulin, AIP Conf. Proc. 147, 253 (1986).