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Study of Angular Distribution of Quasimonochromatic EUV Radiation Generated by 5.7 MeV Electrons in a Mo/Si Multilayer

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In a number of studies [1-4] it has been theoretically and experimentally shown that at the interaction of a relativistic electron with a periodic structure, a quasimonochromatic component of X-rays is generated in the direction of the Bragg diffraction.

The mechanism of this radiation is similar to the parametric X-ray radiation of relativistic charged particles in crystals. This report presents the results of an experimental study of the angular distribution of EUV radiation generated by 5.7 MeV electrons in a periodical structure of a Mo/Si multilayer. The angular distributions were measured in the diffraction plane and at the angle $\theta_{Dy} = 1/\gamma$ with respect to this plane. The experimental results are compared with the simulation using the theory [2].

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