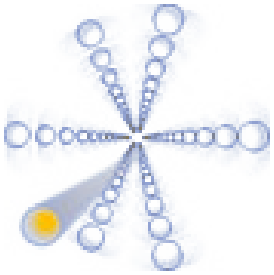

Contribution ID: **89** Type: **Poster**

PS2-01: Observation of Quasimonochromatic EUV Radiation Generated by 5.7 MeV Electrons in Periodic Structure of Multilayer Mo/Si Mirror

Tuesday, 7 October 2014 17:00 (1h 30m)

The dynamics of changing the form of angular distribution and intensity of EUV radiation emitted from a multilayer Mo/Si mirror with changing the angle of grazing incidence θo of 5.7 MeV electrons on the mirror surface has been investigated. Two series of angular distributions of radiation have been measured in the region of detection angle 60o< θD <160o with and without use a 1 μm Al absorption filter. The Mo/Si mirror consisted of 50 Mo/Si bi-layers with the thicknesses of 11.32 nm was used in the experiment. The measured results have shown that the maximum intensity of EUV radiation in the angular distributions measured without the Al filter decreases at increase of the angle θo, while the similar characteristic measured with the Al filter increases. Comparison of the observed tendencies of changing the maximum intensity of the angular distributions of EUV radiation with the results of model calculations of a back transition radiation [1] and diffracted transition radiation [2] has shown that in the experiment the contribution of narrow-directed quasimonochromatic component in the spectrum of radiation emitted in the Bragg direction has been observed. Earlier, the observation of such type of EUV radiation was carried out on the base of simple comparison of the intensities of radiations generated in a homogeneous target and a multilayer mirror [3]. The demonstration of existence of quasimonochromatic EUV component in radiation generated in multilayer mirror carried out in this work is more reliable because the used approach is based on the analysis of behavior of the spectral-angular characteristics of radiation that is specific namely for coherent radiation generated by charged particles in periodic structures [4].

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Primary authors: Dr SUKHIKH, Leonid (Tomsk polytechnic university); Dr UGLOV, Sergey (Tomsk Polytechnic University)

Co-authors: Dr VUKOLOV, Artem (Tomsk polytechnic university); Dr KAPLIN, Valery (Tomsk polytechnic university, Leading scientist)

Presenter: Dr UGLOV, Sergey (Tomsk Polytechnic University)

Session Classification: PS: Poster Session