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# Influence of Crystals Mosaic Structure on the Characteristics of Fast Electrons Radiation

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It is known that the mosaic nature of the crystal significantly affects the characteristics of the radiation of fast electrons, and the degree of this influence depends on the radiation mechanism. The intensity of radiation at the Bragg angle increases sharply due to the additional contribution of diffracted real photons of transition and bremsstrahlung radiation [1], peaks in the spectra of coherent bremsstrahlung radiation and radiation during channeling, on the contrary, become less intense, and their width increases [2].

The effect of crystal mosaic on the movement of electrons has not yet been studied. Measurements of the  $\Theta$ -scans of the soft component of the radiation of relativistic electrons in mosaic crystals of pyrolytic graphite showed that the position of the maxima due to the “volumetric capture” of electrons in the planar channeling mode coincides with the observation angle, as for perfect crystals [3], but the dependence amplitudes depending on the viewing angle are not described by the theory of multiple scattering.

Measurements of the total radiation energy at a fixed solid angle for several observation angles confirmed the presence of features in the angular distribution of electrons in mosaic crystals, up to the manifestation of an analogue of the “focusing” effect. The possible reason for the observed effects is discussed.

### References

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3. K.Yu. Amosov et al., Izv. Vuzov “Fizika”, 34 (1991) № 6 70 (in Russian).

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