X-RAY DIFFUSIVE SCATTERING INTENSITY BY CRYSTALS WITH HETEROGENEOUS DISTRIBUTION OF COMPLEXES

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S u m m a r y

In the framework of the kinematic theory of X-ray scattering by crystals, the model that describes the asymmetry of peaks of the X-Ray reflection from strongly distorted areas of monosilicon is proposed. The case where distortions are due to a heterogeneous distribution of the high-concentration complexes of atoms of the phosphorus impurity in the surface layer is considered. The asymmetric curves that are well coordinated with experimental curves on the difractograms of $\theta - 2\theta$ scanning are theoretically obtained. The developed theory correctly describes the sign of the asymmetry of peaks and the qualitative dependence of its value on the reflection index. The divergence of theoretical and experimental values is $\sim$20%.