ANALYSIS OF THE BROADENING X-RAY LINES BY CRYSTALS CONTAINING SUBGRAINS AND BLOCKS

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S u m m a r y

The theoretical analysis of the intensity distribution for the X-ray scattering by crystals containing subgrains and blocks is carried out. The presence of chaotically arranged dislocation walls consisting of equidistant edge dislocations of one sign causes the broadening of X-ray lines on a Debye photograph. In the general case, the integral width can depend on the orientation of walls and the direction of the diffraction vector. The measurement of the integral width of X-ray lines allows one to determine the size of blocks and, under some conditions, the size and disorientation of blocks.