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Electron Diffraction Study of the Local Atomic Arrangement in Amorphous Tellurium Films*

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Abstract

Amorphous thin films of tellurium have been prepared by condensation on the substrate at liquid helium or nitrogen temperature in high vacuum, and a transmission electron diffraction study of these films has been undertaken. Diffraction patterns of such films show diffuse halos, which are characteristic of a highly disordered structure. A radial distribution analysis has been carried out in order to investigate the local atomic arrangement in the films. The result leads to the conclusion that the atoms in the films are arranged in short chains.