

Preparation of Metals Nanostructures on Surface (0001) of Thermoelectrical Bi_2Te_3 and $\text{Bi}_2\text{Te}_{3-x}\text{Se}_x$

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Present paper is devoted to results of research of formation nanostructure in monocrystals Bi_2Te_3 doped by 0.1 mass % tin and $\text{Bi}_2\text{Te}_{3-x}\text{Se}_x$ ($x = 0.04$). The data of studying of obtained samples Bi_2Te_3 and $\text{Bi}_2\text{Te}_{3-x}\text{Se}_x$ with use of electronic microscopy and X-ray diffraction method are resulted. The formation of nanodimensional layers of is established on surfaces (0001) of Bi_2Te_3 and $\text{Bi}_2\text{Te}_{3-x}\text{Se}_x$ as "islands" comparable with the sizes of Van der Waals gaps of crystals. During the crystal growth as result of impurity diffusion along a surface (0001), the accumulation, redistribution and nanocrystal formation between $\text{Te}(1)$ – $\text{Te}(1)$ layers is occurring.