

A process for preparation of alloyed crystals of PbTe:Bi n- and p-type of conductivity consists in that original substance from separate components disposed in quartz vacuum-processed ampoule is placed to the two-zone furnace, which temperature of the first zone is higher than that the melting temperature of original substance, and the temperature of the second zone is lower than the temperature of melting of original substance, and the ampoule with original substance is kept in the first zone and displaced to the second zone for carrying out of crystallization, thereafter it is cooled to the room temperature. As original substance pure lead and tellurium are used taken at a ratio corresponding to the composition of compound of PbTe, and bismuth.