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Effect of structure modification with potassium on grains layer creation process and phase transitions

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Abstract

Lead and bismuth grains conducting layers were obtained in the course of heat treatment in hydrogen of lead-germanate and bismuth-silicate glasses surfaces. For the purpose of an improvement of technological properties, glass structures were modified with potassium. The article concerns potassium influence on grains layer formation and grains melting and crystallization during heat treatment. Studies based on AFM and DSC measurements confirmed that bismuth-silicate and bismuth-germanate glasses are good materials for microchannel plates or channeltrons.



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