# Structural peculiarities and properties of glasses in bismuthgermanate systems

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Bismuthgermanate glasses in $PbGeO_3$-$BiF_3$-$PbF_2$ system having increased optical constants, wide region of conductivity value are investigated.The results of investigation of glass formation processes, structure and a number of physico-chemical properties of synthesized glasses are stated. The structural interpretation of properties dependencies on chemical composition is suggested. The glass formation region and limits of stable glasses not inclined to crystallization and liquation, are defined and corrected. The main semiconductive properties are also defined.Analyzing data received in the result of physico-chemical investigations, the some assumptions about structural peculiarities of investigated glasses are made. It has been determined, that in the presence of bismuth fluoride in multibismuth area of compositions the fluoride structural units BiOF, $PbOF_2$ are formed, plaing a glassformer role. The glasses have high transmission in IR-region of spectrum. The $Pb^{2+}$ replasement by $Bi^{3+}$ cause absorption strip displacement in spectrum region and transmission level of glasses increases.