

研究论文

TeO₂-Nb₂O₅-P₂O₅系统玻璃成玻性能及其性能研究

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摘要:

研究了TeO₂--Nb₂O₅--P₂O₅三元系统的玻璃形成能力和相关理化性能。结果表明, 在TeO₂(80%--90%), Nb₂O₅(0--20%), P₂O₅(0--20%)(摩尔分数)成分范围内可以形成性能良好的透明玻璃, 碲氧、磷氧和少量的铌氧结构单元共同构建了稳定的链状玻璃网络骨架。TeO₂--Nb₂O₅--P₂O₅玻璃的转变温度为394--425℃、折射率为1.65--1.88。

关键词: 无机非金属材料 碲酸盐 磷酸盐 氧化铌 玻璃 模压

The Glass Forming Ability of TeO₂-Nb₂O₅-P₂O₅ Glasses and Its Properties

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Abstract:

The glass forming ability and the properties of TeO₂--Nb₂O₅--P₂O₅ ternary system were investigated in this paper. It was found that the transparent glasses with good quality can be prepared in the range of TeO₂ 80\%--90%, Nb₂O₅ 0--20%, P₂O₅ 0--20% (molar fraction). The chain--like glass network was stabilized by constructing with tellurium--oxide, phosphorus--oxide and few niobium--oxide coordination polyhedra. The transition temperature of the TeO₂--Nb₂O₅--P₂O₅ glasses is from 394 to 425℃, and its refractive index is from 1.65 to 1.88.

Keywords: inorganic non-metallic materials tellurite phosphate niobium glass molding

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