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Structural changes in sodium-calcium-silicate glass after adding $\mathrm{Si_3N_4}$

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Keywords

synthesis of oxide-nitride glasses, absorption spectra in the infrared of oxide-nitride glasses, structural changes in oxide-nitride glasses

Abstract

Structural changes in sodium-calcium-silicate glass after adding $\mathrm{Si_3N_4}$ (silicon nitride) were investigated. The research included the use of the atom radial decomposition functions (RDF) and infrared spectroscopy. The results of RDF analysis and infrared absorptive spectroscopy have revealed the existence of oxygen-silicone tetrahedra. Moreover, the most probable nitrogen location in oxide-nitrogen glass has been confirmed.



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