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Measurements of Vickers Hardness and Refractive Index Properties of Na-Borophosphate Glasses

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Abstract: Microhardness and Refractive Index measurements are performed on $x \text{ Na}_2\text{O}$ (100-X) P_2O_5 , ($x=25, 30, 35, 40$) and $30 \text{ Na}_2\text{O}$ (70-x) P_2O_5 - $x \text{ B}_2\text{O}_3$, ($x = 15, 20, 25, 30$) have been investigated to find out the role played by B_2O_3 on the structure of these glasses. These glass samples have been prepared using a conventional melt – quenching method. Microhardness studies revealed that the hardness of the glasses increases with an increase in applied load. Refractive index of the glasses increases with an increase in B_2O_3 content.

Keywords: Vickers hardness, Refractive Index, Melt Quench Method, Glass.

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