



Enhancement in Electrical Conductivity of Lithium Alumina Borate Glasses

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Abstract

The ionic conducting glasses $35\text{Li}_2\text{O} : (65-X) \text{B}_2\text{O}_3 : X \text{Al}_2\text{O}_3$ has been prepared with various compositions (where $X = 0, 5, 10, 15, 20$) by using melt quenching technique. The nature of glass samples were confirmed by XRD and SEM. The dc electrical conductivity of glass samples were measured by using four probes method at different temperature (323K-623K). It has revealed that dc conductivity obeys Arrhenius behavior, electrical conductivity of glass increases with increase in mole percent of aluminum oxide and temperature.

Keywords: dc conductivity, XRD, SEM, Arrhenius behavior.

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