

DIELECTRIC PROPERTIES OF $\text{Li}_2\text{O}-\text{B}_2\text{O}_3-\text{Al}_2\text{O}_3$ GLASS SYSTEM

D.T.DONGARE¹ & A.B.LAD²

¹S.S.S. K.R. Innani Mahavidyalaya Karanja (Lad), Maharashtra, India

²Amolakchand Mahavidyalaya Yavatmal, Maharashtra, India

ABSTRACT

The ion conducting glasses $35\text{Li}_2\text{O} : (65-X) \text{B}_2\text{O}_3 : X \text{Al}_2\text{O}_3$ have been prepared with various compositions (where $X = 0, 5, 10, 15, 20$) by using melt quenching technique. The electrical conductivity and dielectric parameters of glasses were analyzed by LCR impedance analyzed in the frequency range (100Hz-1MHz) at different temperatures (323K-623K). It has been observed that the electrical conductivity of glass increases with increase in mole percent of aluminum oxide. The dielectric constants and dielectric modulus are reported and described dielectric relaxation mechanism.

KEYWORDS: Electrical Conductivity, Dielectric Constant, Dielectric Relaxation Mechanism