

## 58. Dielectric Properties of PbO-B<sub>2</sub>O<sub>3</sub> and PbO-ZnO-B<sub>2</sub>O<sub>3</sub> Glasses

S.G.Motke

### ABSTRACT

A series of lead borate glasses with formula [x PbO- (100-x) B<sub>2</sub>O<sub>3</sub>] and lead borate glasses containing zinc oxide [x PbO- y ZnO- (100-x-y) B<sub>2</sub>O<sub>3</sub>] were prepared by usual melt and quench method. Detailed studies on dielectric properties viz. dielectric constant ( $\epsilon'$ ) and dielectric loss ( $\epsilon''$ ) were investigated as a function of frequency (103 Hz to 106 Hz) and temperature range (313K to 573K). The study of frequency dependence of both dielectric constant ( $\epsilon'$ ) and dielectric loss ( $\epsilon''$ ) showed a decrease of both quantities with increasing frequency. The dielectric loss variation with the temperature has exhibited dielectric relaxation effect.

**Key words** - DIELECTRIC PROPERTIES ,borate glasses , dielectric constant ,