Investigation on Physical, elastic and mechanical properties of

ZnO − CaF2 − R2O(R = Li, Na & K) − B2O3: CuO glasses

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**Abstract**

In this study, we have presented physical, elastic and mechanical propertied of ZnO−CaF2−R2O − B2O3: CuO glasses (R=Li, Na & K) in continuation of our previous work on spectroscopic and dielectric properties of ZnO−CaF2−R2O − B2O3: CuO glasses (R=Li, Na & K).Three samples of glasses with composition ZnO − CaF2 − R2O(R = Li, Na & K) − B2O3: CuO were prepared by conventional melt quenching technique.Amorphous nature of the prepared glasses was proven with XRD spectra. Densities and Ultrasonic velocities for the glass systems have been measured. Densities of the glasses changes in respect to R2O (R = Li, Na & K). Elastic Moduli, Poisson’s ratio, acoustic impedance and Debye temperature were calculated from the measured ultrasonic velocities using standard relations.The physical and mechanical properties are analysed in comparison with the optical and dielectric properties of the present glass samples.