

Effect of heat treatment on the physical and structural properties of tellurite glass

ABSTRACT

This study reports the spectroscopic properties of tellurite glass with a composition of 70TeO₂-20ZnO-9.5Na₂O-0.5Er₂O₃ synthesized using the melt-quenching technique. The physical and structural properties of glass heat treated at distinctive temperatures are found to vary due to the structural changes. The incorporation of erbium content into tellurite glass causes the glass to appear reddish in color and transparent. However, glass heat-treated at 400°C shows the tendency to become opaque due heat treatment near the crystallization temperature. XRD pattern indicated the amorphous nature of glass with the presence of a broad hump in the range 25° to 40°.