**FTIR SPECTROSCOPY STUDY ON TELLURITE DOPED Eu\textsubscript{2}O\textsubscript{3} GLASS**

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**ABSTRACT**

A series of tellurite glass based on TeO\textsubscript{2}-ZnO-ZnCl\textsubscript{2}-Li\textsubscript{2}O-Eu\textsubscript{2}O\textsubscript{3} were successfully prepared by the melt-quenching technique. Fourier Transform Infrared (FTIR) studies for each sample has been carried out in the range of 400 – 4000 cm\textsuperscript{-1}. Differential Thermal Analysis (DTA) shows that the incorporation of Li\textsubscript{2}O increased the stability of the tellurite glass. FTIR spectra showed a large absorption peak between 650 – 680 cm\textsuperscript{-1} which corresponds to the TeO\textsubscript{4} stretching vibration mode. However, the peak shifted towards a higher wave number as the Li\textsubscript{2}O was increased. The peak between 730 – 770 cm\textsuperscript{-1} which corresponds to the TeO\textsubscript{3} stretching vibration mode. However, the peaks at 3400cm\textsuperscript{-1} and between 1620 – 1650 cm\textsuperscript{-1} correspond to H-OH and M-OH stretching vibration respectively. It was also observed that the glass with high Li\textsubscript{2}O content has a high transmission intensity.


**REFERENCES**