# Optical Properties Of $CuO\text{-}MnO_2\text{-}B_2O_3$ Glasses

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Abstract :

The optical absorption and transmission spectra in (UV-VIS) have been recorded in the wavelength range 350-800 nm for different compositions of CuO-MnO2-B2O3 glasses. The various optical properties such as absorption coefficient (α'), optical energy gap (Eopt), refractive index (no), optical dielectric constant (ε'∞), measure of extent of band tailing (ΔE), constant (β) and ratio of carrier concentration to the effective mass (N/m*) for different glasses have been reported. The effects of composition of glasses on these parameters have been discussed. It has been indicated that a small modification of the glasses can lead to an important change in all the optical properties. These results are interesting showing non linear behaviour for all these parameters investigated. The optical parameters are found to be almost the same for different glasses in the same family.

Keywords : CuO-MnO2-B2O3 glasses, Optical properties, non-linear behaviour