

Abstract

Project Code: MRG5680114

Project Title: Fabrication and investigation of luminescence properties of recycled window glasses as gamma-radiation dosimeter

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Abstract:

The luminescence and structural properties of recycled window glasses (RWG) doped with different some transition metal oxides (TMOs) and some rare earth oxides (ROs) were carried out. All glasses were prepared and irradiated under the same conditions. The luminescence properties were investigated in terms of the TL response, TL glow curve, linearity, lower detection limits (D_{LDL}), reproducibility and fading. The structural properties were studied in terms of elastic moduli, micro-hardness, FTIR and expand to optical properties such as UV-visible absorption coefficient. These properties of the glass samples will be examined to be applying these glasses as the gamma-radiation dosimeter.

Keywords: Luminescence; elastic moduli; gamma-radiation; rare earth; glasses