



Er³⁺ ion dispersion in tellurium oxychloride glasses

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Résumé en anglais	Erbium-doped tellurite glasses in the 60TeO ₂ -20ZnO-20ZnCl ₂ -xErCl ₃ systems, with erbium concentration between x = 1 and 10 mol%, were prepared and their refractive index and density were measured. Er ³⁺ photoluminescence at 1.5 μm and the corresponding lifetime measurements were performed. A full width at half maximum value of about 53 nm for all the samples and lifetimes ranging between 4.2 and of 2.2 ms were obtained from the comparison of the radiative lifetimes calculated by Judd-Ofelt analysis and the measured lifetimes, quantum efficiency higher than 50% was assessed even in the most doped samples. A quenching concentration for the 1.5 μm emission of about 10% was estimated.
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