

Effect of compositional variation on optical and structure properties of europium-doped SiO₂-HfO₂ glasses

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R�sum� en anglais	Glasses with compositions (100-x)SiO ₂ -xHfO ₂ :0.3Eu ³⁺ (molar ratio, x=0,10,20,30) for optical applications were prepared using the sol-gel route. The introduction of hafnium into the glass matrix induced the energy splitting of the F ₂₇ state of Eu ³⁺ ions. Furthermore, fluorescence line narrowing (FLN) spectra indicated that Eu ³⁺ clustering occurred in glasses containing no hafnium. The addition of hafnium promoted better dispersion of Eu ³⁺ ions in the glass matrix. The role of hafnium on modifying the properties of glasses was discussed with respect to x-ray diffraction and FLN analysis.
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