

White Light Emission from Rare Earth Ions activated Oxide Glasses

The generation of white light through up-conversion under the excitation of an infrared laser radiation plays important role due to its photonic application in lighting, displays, and sensor technology. The current studies have stimulated interest in the search for triple doped host materials which may present pure white light emission. Of course the up-conversion white emission requires appropriate relative amounts of Er^{3+} , Tm^{3+} , Yb^{3+} ions so as to control the relative intensities of three fundamental red, green blue colors. In accordance with the aim of our study, it has been examined whether the triple lanthanide ions ($\text{Er}^{3+}/\text{Tm}^{3+}/\text{Yb}^{3+}$) doped oxide based composite glasses synthesized by the conventional melt quenching method can be used for the production of WL base on up-conversion energy transfer mechanism, by excitation of 805.2 and 980 nm laser light. Thus it has been aimed to directly contribute to the realization of the study and production of novel photonic devices comprising white light usage.