Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

The role of the symmetry on the luminescent properties of Zr5Ti7O24:Eu3+ FEDERICO GONZALEZ, Departamento de Fisica Universidad Autonoma Metropolitana Mexico MEXICO, ANTONIO MUOZ-FLORES, Departamento de Fisica Universidad Autonoma Metropolitana Mexico, MEXICO, JORGE GARCIA-MACEDO, Instituto de Fisica. UNAM Mexico MEXICO, MANUEL AGUILAR, Instituto de Fisica. UNAM Mexico MEXICO — The study of the luminescent properties of trivalent lanthanides incorporated into several crystalline matrices, is strongly motivated because of their technological applications in opto-electronics devices and flat panel displays. Then, it is important the systematic research of the RE hosted in different kind of matrices with good mechanical and thermal properties and chemically stables. Zirconium titanate $Zr_5Ti_7O_{24}$ (ZT) has exhaustively studied in the past years, mainly by their electrical properties, but there are not reports about the lanthanide doped ZT. In order to establish the optical behavior of ZT:Eu^{3+} we prepared this material with molar concentration of Eu_2O_3 at 1 mol% using the sol-gel processing. The crystalline structure of the compound was obtained by X-Ray diffraction and corresponds to the space group Pbcn. The time resolved luminescent spectra shown two aggregation types of Eu^{3+} into ZT samples, corresponding with two different exponential decays. We discuss about the origin of the aggregation types of europium and the importance of symmetry on the Eu^{3+} transition lifetimes. .

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Date submitted: 08 Dec 2004 Electronic form version 1.4