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Experimental Angular Resolved Luminescence Measurements of Eu Ions in MgF₂ ALDO SANTIAGO RAMIREZ DUVERGER, RAUL GARCIA LLAMAS, RAUL ACEVES TORRES, Universidad de Sonora — The angular emission from Eu²⁺ ions in a system Al(substrat)/ MgF₂:Eu²⁺/Al is measured. The thickness of the MgF₂:Eu²⁺ films were optimized to support two guided mode, one at 323 nm and other at 420nm, whose values correspond to the excitation and emission wavelength of the Eu²⁺ ions, respectively. The coupling of the incident light to the guided mode was obtained by appropriate selection of the thickness of the Al film. When the guided mode in the excitation wavelength is excited, more Eu²⁺ elements in the waveguide are excited and therefore more elements contribute to the emission. If also, a guided mode in the emission wavelength is excited, it produces in the emission band of Eu²⁺ an increment of it value. Therefore, the spatial distribution of emission light as a function of the angle of incidence is enhanced in resonant condition as compared with off-resonance condition due to the incident light travels along the guide more efficiently.

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