

Preparation and characterization of sol-gel Li and Al codoped ZnO thin films

김의정*, 권영상, 한성홍¹, Hongen Nian
울산대학교 생명화학공학과; ¹울산대학교 물리학과
(ejkim@ulsan.ac.kr*)

Li and Al codoped ZnO (LAZO) thin films have been prepared by a sol-gel method and their structural and optical properties have been investigated. The films prepared had an average transmittance over 85% in the visible range. The UV absorption edge was red-shifted with Li-doping, whereas it was blue-shifted with Al-doping. The optical energy gap E_g was dependent on dopant concentration. Broad-band yellowish-white emission was observed to cover nearly the whole visible range. The visible emission was enhanced with increasing annealing temperature and dopant concentration.