

Tunable wide-range visible emission of lithium-doped zinc oxide thin films

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

Visible emission of Li-doped ZnO thin films prepared by a sol-gel method has been tuned in a wide range from blue-green to yellow. Blue-green, yellow, and warm white emissions are observed as 5.0 at.% Li-doped ZnO thin films are annealed in N₂, air, and He, respectively. A significant influence of annealing gas on the visible emission of Li-doped ZnO indicates that lithium itself does not cause yellow emission, but it helps to mediate the intrinsic-defect-related visible emissions.