# Tunable optical properties of ZnO via doping lithium, manganese and iron.


## Abstract

Implications of Li, Mn and Fe doping on optical properties of ZnO is discussed here. Simple one step sol-gel route was utilized to synthesize ZnO. The optical properties of ZnO exhibited a strong function of dopant type and concentration. Li, Mn and Fe incorporation resulted in red shift in band gap of ZnO; highest shift being for Fe doped ZnO followed by Mn and Li doped ZnO. Red shift of 11% is realized for 20% Fe doped ZnO, whereas it is 9% and 6% for Mn and Li doped ZnO. The emission spectra show quenching of UV emission for doped ZnO. Mn and Fe doped ZnO exhibited green luminescence.