

Sol-gel derived N-doped ZnO thin films

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N-doped ZnO (NZO) thin films have been prepared by sol-gel method and their electrical and optical properties have been investigated. The prepared NZO films were p-type, and had excellent electrical properties. They had an optical transparency above 85% in the visible range. The UV absorption edge was red-shifted with increasing N-doping concentration. Two emission bands were observed in the photoluminescence (PL) spectra, with one band located in the UV range and the other band consisting of green luminescence. Both UV and green emissions were enhanced with increasing N-doping concentration.