International Journal of ChemTech Research
CODEN (USA): IJCRGG ISSN: 0974-4290
Vol.9, No.04 pp 598-603, 2016

Luminescent Properties of Cu^{2+} Doped SnO_2 Thin Films by Spray Pyrolysis

K. Ravindranadh[1], D. Sridhar Kumar[1], K. Durga Venkata Prasad[1] and M.C. Rao[2]*

[1]Physics Division, Department of Basic Sciences & Humanities, Chirala Engineering College, Chirala-523 157, India
[2]Department of Physics, Andhra Loyola College, Vijayawada - 520 008, India

Abstract: Transparent conducting oxide films have been widely used in the fields of flat panel displays, solar cells, touch panels and other optoelectronic devices owing to their high electrical conductivity and optical transmittance in visible region. Tin oxide with a wide band gap is one of the excellent semiconductors which can be applied to solid state gas sensors, sensing arrays photovoltaic cells, organic light emitting diodes. Cu^{2+} doped tin oxide thin films were prepared by chemical spray pyrolysis synthesis and characterized by different spectroscopic techniques. The morphology of prepared sample was analyzed by using SEM and TEM studies. Functional groups of the prepared sample were observed in the FT-IR spectrum. PL studies of Cu^{2+} doped SnO_2 thin films exhibit ultraviolet and blue emission bands. CIE chromaticity coordinates were also calculated from emission spectrum of Cu^{2+} doped SnO_2 thin films.
Keywords: SnO_2, Thin films, Spray pyrolysis, SEM, TEM, FT-IR and Photoluminescence.

M.C. Rao *et al* /International Journal of ChemTech Research, 2016,9(4),pp 598-603.

*****