

**EFFECT OF AL DOPANT ON THE STRUCTURAL AND OPTICAL
PROPERTIES OF ZnO NANOPOWDERS
SYNTHESIZE BY SOL-GEL METHOD**

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ABSTRACT. Pure and Al doped zinc oxide nanopowders have been synthesized by sol-gel method. This method permit to obtain a very small grain size (23-36 nm), with grain size in undoped ZnO powder are larger than those Al doped ZnO powders. All the samples indicate a band gap of about 3.44 eV. The undoped and Al doped ZnO powders show a granular morphology, with some differences for nanopowders doped with a higher percentage more than 3%.

KEYWORDS: *Nanopowders, AFM studies, Photonic band gap,*