

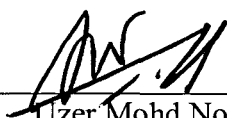
**EFFECT OF ANNEALING TEMPERATURE ON UNDOPED ZINC  
OXIDE AND ALUMINIUM DOPED ZNO BY SOL-GEL SPIN  
COATING**

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**Final Year Project Report Submitted in  
Partial Fulfillment of the Requirement  
for the Degree of Bachelor of Science (Hons.) Industrial Physics  
In the Faculty of Applied Sciences  
Universiti Teknologi Mara.**

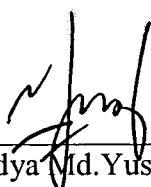
**JULY 2013**

This Final Year Project Report entitled “**Effect of Annealing Temperature on Undoped Zinc Oxide and Aluminium Doped Zinc Oxide by using Sol-Gel Spin Coating**” was submitted by Anis Fazlinda bt Mohd Hassan, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Industrial Physics, in the Faculty of Applied Sciences, and was approved by



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## ABSTRACT

ZnO and AZO thin films were deposited on glass substrate by using sol-gel spin coating technique with varying an annealing temperature. X-ray diffraction, atomic force microscopy (AFM) and field emission scanning electron microscopy analyses were used to investigate the effect of an annealing temperature on the crystallinity, surface morphology and surface roughness of the films. The results show that with an increase in an annealing temperature, the value of the full-width at half-maximum (FWHM) peak was highest for ZnO was at (002) peak. Studies of the optical properties of these films shown that at higher annealing temperature of ZnO and AZO thin films show an increased in optical transmittance.