FABRICATION OF TITANIUM DIOXIDE (TiO_2) ON POROUS SILICON (PSi)

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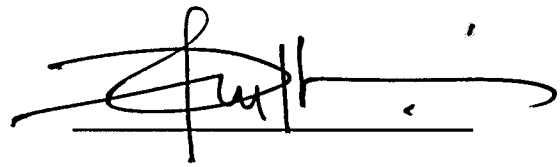
This Final Year Project entitled **"Fabricaton of Titanium Dioxide (TiO_2) on Porous Silicon (PSi)"** was submitted by Norhafizah binti Abd Razak, in partial fulfillment of the requirements for Degree of Science (Hons.) Physics in the Faculty of Applied Science, and was approved by



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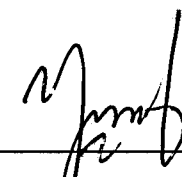

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ABSTRACT

Titanium dioxide (TiO_2) is a material used in many applications either in form of powder, thin films and nanomaterial as well as nanorods. In this project, TiO_2 was fabricated on porous silicon (PSi) substrate. Coating of TiO_2 on PSi will be enhanced the absorption of light and very potential used in high performance cell fabrication. PSi was prepared by electrochemical method with $10mA/cm^2$ of current density and 20 min etching time. Sol gel method was used to prepare TiO_2 coating solution. The PSi substrate was then dipped in coating solution for fives times. The withdrawal speed was varied for 10, 20, 30, 40 and 50 mms^{-1}. Raman spectra and AFM were used to measure the properties.