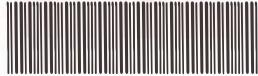


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**ABSORPTION OF GAMMA RADIATION
BY WHITE CEMENT SAMPLES
AS AN ARTIFICIAL TISSUE**

By
Nur Kamal Hidayah Binti Kamarulzaman

A project report in partial fulfillment of
the requirements for the award of the degree of
Bachelor of Applied Science (Physics Electronic and Instrumentation)

Department of Physical Sciences
Faculty of Science and Technology
UNIVERSITI MALAYSIA TERENGGANU
2008



JABATAN SAINS FIZIK
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UNIVERSITI MALAYSIA TERENGGANU

PENGAKUAN DAN PENGESAHAN LAPORAN PITA I DAN II

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: *Absorption of... Gamma radiation by white cement samples as an artificial tissue...*

oleh Nur Kamal Hidayah bt. Kamarnuzaman, no. matrik: UK12555.....

telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Fizik sebagai memenuhi sebahagian daripada keperluan memperolehi Ijazah Sarjana Muda Sains Gungan (Fizik Elektronik & Instrumentasi) Fakulti Sains dan Teknologi, UMT.

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DECLARATION

I hereby declare that this thesis entitled Absorption of Gamma radiation by white cement samples as an artificial tissue is the result of my own research excepts as cited in the references.

Signature : 
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Matrix No : KAMARULZAMAN
Date : UK 12555
Date : 6/5/08

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ABSTRACT

There are many bad effects when we are expose by gamma ray. Due to that cause, this project has been run in order to investigate which materials are most efficient for gamma absorption. In this research, the material being used is white cement as the sample being test and the experiments have been carried out in three conditions which are wets, half dry and dry cement. From the research, wet cements show the most efficiency in rate of absorption and it almost equal to the rate of absorption of flexi glass. This results prove that molecule of water are influence the rate of absorption. So that, sample which the highest rate of absorption is wet sample with the rate of absorption is 0.27. In future, in order to produce better obstruction of gamma ray, white cement can be added with aluminium because the absorption rate of aluminium and white cement is good.

ABSTRAK

Ada pelbagai kesan buruk akibat daripada terkena sinar gamma. Oleh itu tujuan bahan kajian ini dijalankan adalah untuk mengkaji bahan yang mempunyai kadar serapan gamma yang terbaik. Di dalam kajian ini saya telah menggunakan simen putih sebagai sampel yang diuji dalam tiga keadaan iaitu keadaan basah, separa basah dan kering. Melalui kajian ini, bahan simen dalam keadaan basah adalah yang tebaik kadar penyerapannya dan menyamai kadar serapan yang terdapat pada flexiglas. Ini telah membuktikan yang molekul air mempengaruhi kadar penyerapan. Oleh itu, sampel yang mempunyai kadar serapan yang tinggi ialah dalam keadaan basah yang mana mempunyai kadar serapan sebanyak 0.27. Pada masa akan datang bagi menghasilkan perisaian yang lebih baik simen putih ini boleh dicampur dengan aluminium kerana kadar serapan kedua bahan ini adalah baik.