بسم الله الرحمن الرحيم

DOSIMETRIC MEASUREMENTS DUE TO SOME NATURAL AND MAN MADE NUCLIDES

A DISSERTATION SUBMITTED TO
THE FACULTY OF SCIENCE
PHYSICS DEPARTMENT

IN CANDIDACY FOR THE DEGREE OF Ph.D.

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ACKNOWLEDGEMENT

The author would like to thank the head of the Physics Department, Faculty of Science, Ain Shams University, for the encouragements and providing the necessary facilities.

Many thanks are indebted to the Chairman of the Atomic Energy Authority, for the encouragement and providing the facilities.

The author would like to express his sincere gratitude and deep thanks to Prof. Dr. M.S. Abdel-Wahab, Physics Department, Faculty of Science, Ain Shams University, for proposing and planning this investigation and his continuous encouragements, valuable suggestions, the manuscript have rendered the realization of this work to be possible.

The author greatfully acknowledge Dr. S.K. Youssef, Assistant Professor of Radiation Protection Department, Nuclear Research Center, Atomic Energy Authority, for his active support, continuous encouragements, instructive suggestions and criticisms, and for the time and effort he devoted through out this study .

My deep gratitude to Prof. W.E. Abdel-Malik, Radiation Protection Department for his sincere Correction the language of the manuscript after typing

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The author is most obliged to her colleagues of the Radiation Physics group of the Physics Department, Faculty of Science, Ain Shams University, Specially Dr. S.A.El-Fiki, Dr. N.El-Enauy, Dr. N.El-Faramawy and Dr. S.M.Metwally, for their cooperation. The staff members of the Whole Body Counter Laboratory, are greatly acknowledged for their beneficial help during the experimental part of the research program.

Also, deep thanks to the administration of the Radiation Protection Department and Director of Nuclear Research Center, Atomic Energy Authority, for their help.

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SUMMARY

The present study is dealing in details with the radiation induced hazards on the human being due to internal whole body exposure . This has been attained through the assessment of the body burden activity radionuclides in human being subjects from the released ^{137}Cs fallout and the naturally occurring ^{40}K using the whole body scanning facilities. In this study, many subjects were selected as examples for the Nuclear Research Center radiation users in addition to some examples of non radiation users for whole body counting. Whole body scanning of subjects were performed periodically. The body burden activity level of ^{137}Cs and ^{40}K in addition to the whole body internal exposure were predicted. The scanning geometry of the subjects whole body scanning was the chair. The detector of the whole body counter is tracing the burden activity of the internally dissipated radionuclides in the organs located from the neck down to the knee, i.e. presents about 85-90% of whole body weight.

This thesis is divided into three chapters summarized as given below:

Chapter 1: General introduction is given which includes a review explaining the main causes of internal