



Ain Shams University
Faculty of Girls for Arts, Science and Education,
Physics Department

***IDENTIFICATION OF CHARGED HEAVY PARTICLES
AND RADIATION MEASUREMENTS USING SOLID
STATE NUCLEAR TRACK DETECTORS***

Thesis

**Submitted in the partial Fulfillment for Ph. D.
Degree in Physics
To
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Faculty of Girls for Arts, Science and Education,
Ain Shams University**

**By
Mohamed Fawzy Zaky
M.Sc. in physics, 2001**

2005



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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿١٥٩﴾ إِنْ الَّذِينَ فَرَّقُوا دِينَهُمْ وَكَانُوا شِيعًا لَسْتَ مِنْهُمْ فِي شَيْءٍ إِنَّمَا أَمْرُهُمْ إِلَى اللَّهِ ثُمَّ يُنَبِّئُهُمْ بِمَا كَانُوا يَفْعَلُونَ
 ﴿١٦٠﴾ مَنْ جَاءَ بِالْحَسَنَةِ فَلَهُ عَشْرُ أَمْثَلِهَا وَمَنْ جَاءَ بِالسَّيِّئَةِ فَلَا يُجْزَى إِلَّا أَمْلُهَا وَهُمْ لَا يُظْلَمُونَ ﴿١٦١﴾ قُلْ إِنِّي هَدَيْتُ رَبِّي إِلَى صِرَاطٍ مُسْتَقِيمٍ دِينًا قِيَمًا مِلَّةَ إِبْرَاهِيمَ حَنِيفًا وَمَا كَانَ مِنَ الْمُشْرِكِينَ ﴿١٦٢﴾ قُلْ إِنْ صَلَاتِي وَنُسُكِي وَمَحْيَايَ وَمَمَاتِي لِلَّهِ رَبِّ الْعَالَمِينَ ﴿١٦٣﴾ لَا شَرِيكَ لَهُ، وَبِذَلِكَ أُمِرْتُ وَأَنَا أَوَّلُ الْمُسْلِمِينَ ﴿١٦٤﴾ قُلْ أَغْيَرَ اللَّهُ آبَنِي رَبًّا وَهُوَ رَبُّ كُلِّ شَيْءٍ وَلَا تَكْسِبُ كُلُّ نَفْسٍ إِلَّا عَلَيْهَا وَلَا نُزِرُ وَازِرَةً وَزَرَ أُخْرَى ثُمَّ إِلَىٰ رَبِّكُمْ مَرْجِعُكُمْ فَيُنَبِّئُكُمْ بِمَا كُنتُمْ فِيهِ تَخْتَلِفُونَ ﴿١٦٥﴾

Dedicated

To

My parents (Father and Mother),

My brothers,

My family (Wife and Daughter)

My Cognates

And

My friends

Acknowledgment

Acknowledgment

*I kneel obsequiousness to **ALLAH** thanking **HIM** for showing me the right way, without **HIS** help my efforts would have gone astray. Thanks also for a person I love him very much, the **Prophet Mohammed {God's praise and peace upon}**, who demonstrate the way on the strength of his instructions.*

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2. Variation of the track etch rates of alpha- particle trajectory in PADC. ***Radiation Effects & Defects in Solids, Vol. 00, No. 0 2005, 1-6.***

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1. A Comparison Study of ^{86}Kr , ^{93}Nb and ^4He Ions Range in CR-39 Track Detector. ***Radiation Effects & Defects in Solids.***

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