STUDY OF NUCLEAR PARAMETERS OF SOME RADIOACTIVE NUCLEI

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AFAF ABDEL LATIF NADA

DEPARTMENT OF PHYSICS
FACULTY OF WOMEN
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STUDY OF NUCLEAR PARAMETERS OF SOME RADIOACTIVE NUCLEI

SUPERVISORS *SIGNATURE*

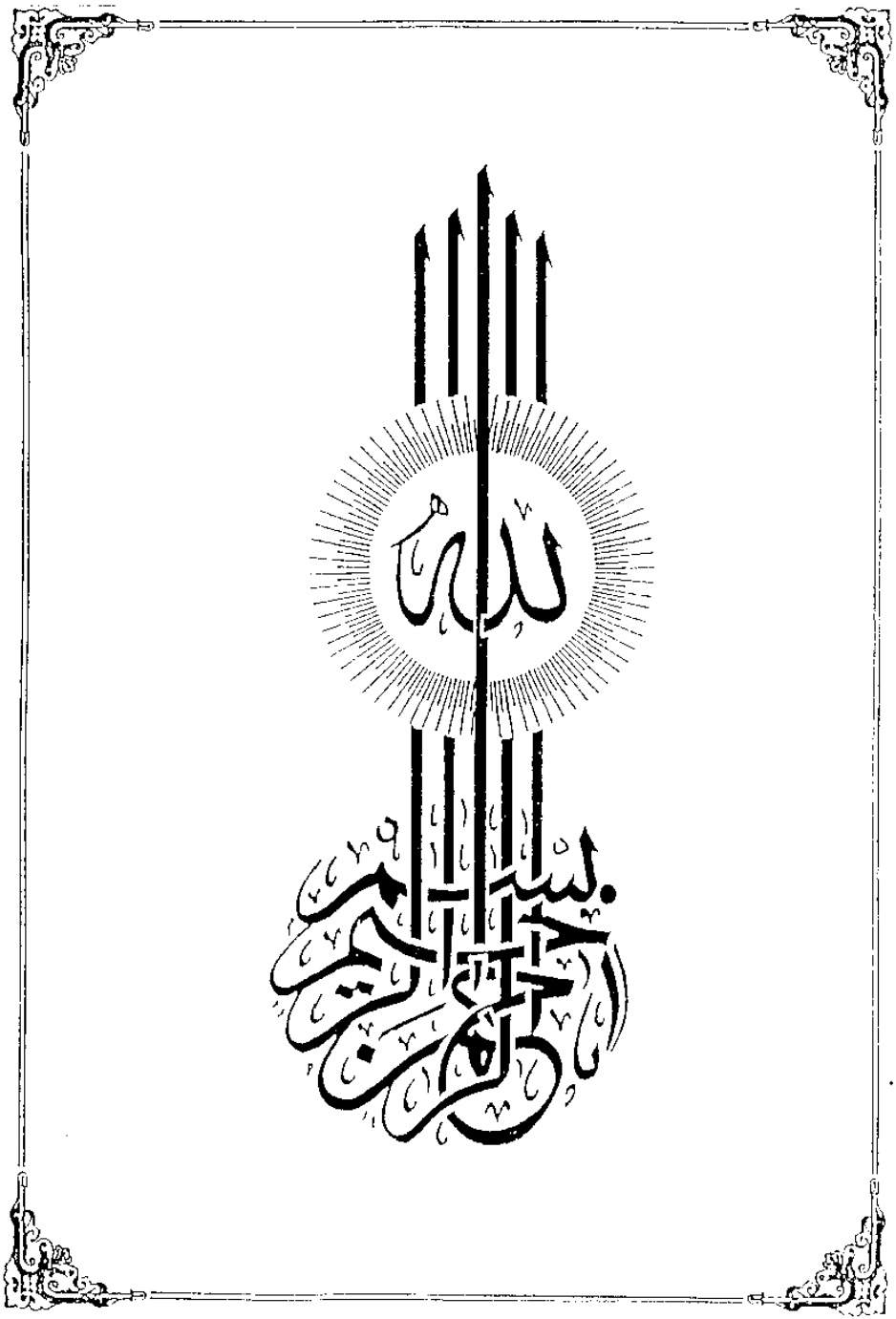
1. **Prof. Dr. Hosni A. Ismail.**
   Dean of Faculty of Education
   Ain Shams University

2. **Prof. Dr. Z. Meleigi.**
   Physics Department.
   Faculty of Science.
   Ain Shams University

3. **Dr. S. Abdel Malak.**
   Physics Department.
   Faculty of Women,
   Ain Shams University

Approved

Head of Physics department



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SUMMARY

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The present study deals with the theoretical and experimental estimations of the nuclear spectroscopic parameters, gamma transitions and energy levels of ^{188}Os, following β-decay of $^{188}_{75}Re$ and $^{186}_{76}Os$, following β-decay of ^{186}Re. Experimentally, four spectrometers have been used. These are the gamma-ray singles, gamma-gamma coincidence, angular correlation and life-time spectrometers. Two theoretical models have been applied to these nuclei to study the nuclear structure of asymmetric ones. A selection of the most adapted model has been made to gain a good confirmation with the experimental results. This thesis contains the following four chapters:

Chapter I represents a review of different nuclear models for prediction of some properties of nuclei. These models are known as Collective, Davydov's and Extended Variable Moment of Inertia models.