

127, 17 27, 17 (20) 77, 17 (20









جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بللله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأفلام قد اعدت دون آية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15-20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of 15 – 25c and relative humidity 20-40 %



ثبكة المعلومات الجامعية





Information Netw. " Shams Children Sha شبكة المعلومات الجامعية @ ASUNET بالرسالة صفحات لم ترد بالأص



Faculty of science

Growth and characterization of Ga₂Te₃ and Tl₅Te₃ crystals

A thesis

Submitted to faculty of science (Aswan)
South Valley University
as Partial Fulfillment for
The degree of M.Sc.
(Physics)

by

Eman Jaber Hamza
(B.Sc Physics, Faculty of Science 1997)

Supervised by

Prof. Dr. G. A. Gamal
Prof. of Exp. Sol. Stat. Phys.
Faculty of Sci. Phys.Dept.(Qena)
South valley Univ.

Dr. M.M. Abdel-Rahman

Head of Phys. Dept. (Aswan).
Faculty of Sci.
South Valley Univ.

Dr.M.I.Ashraf

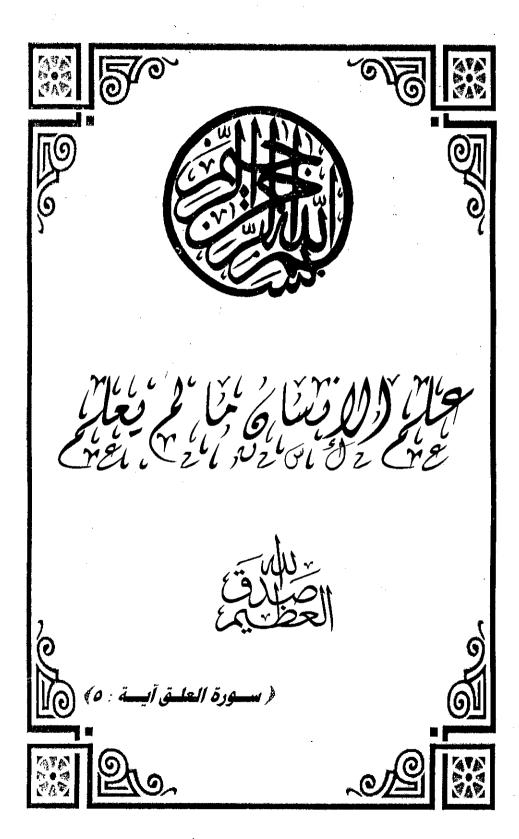
Lecturer of phys. Faculty of Sci.

Phys. Dept. (Aswan)

South Valley Univ.

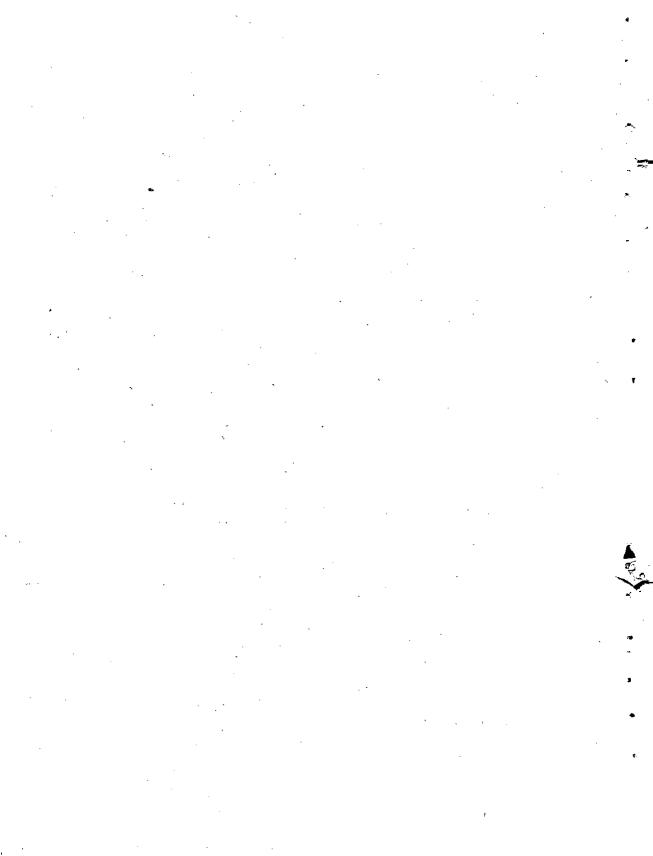
BNIVA

The second control of ÷. . .





ACKNOLEDGMENT



Acknowledgment

First of all my deep thanks are for Allah who helped and supported me. Special thanks are to my parents for their encouragement, support and love. I am especially grateful to Prof. Dr. G.A Gamal professor of experimental solid state physics (Qena) not only for offering me the chance to work in his lab., but also for his assistance in the progress of the work during the experimental part. He is also acknowledged for many helpful discussions and for patently fielding and answering my numerous questions.

In particular **Dr. M.M. Abdal Rahman** assistant prof. of solid state physics and the head of physics department now (Aswan) gave frequent assistance and effective contribution the this work. He suggested the work of Ga₂Te₃ crystals in the frame of the work.

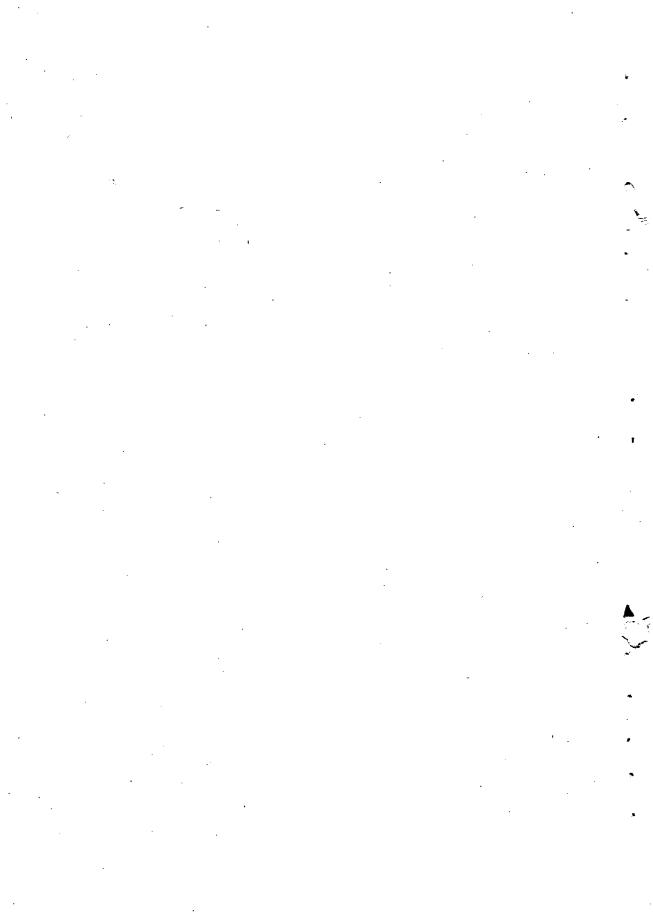
I'd like to extend my thanks to **Dr. M.I Ashraf** lecturer of physics (Aswan) for suggesting some points and for his overall directions.

I gratefully acknowledge Prof. Dr. A. E. Belal the former head of physic Dept. (Aswan) not only for his departmental facilities, but also for his keen encouragement, advice and support throughout the different stages of this work.

Thanks to **prof**. **Dr.M.T. El-haty** dean of faculty of science (Aswan) for his true help and solving many problems.

Dr. M.K. Gerges assist Prof. of solid state physics (Qena) is truely acknowledged for facilities and providing the circuit for the ferroelectric measurement in his lab.

I would like to thank my friends **Aboualwafa** and **Khalid** for their assistance in many ways.



CONTENTS

* . • • * • • • . * . *