



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



HANAA ALY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



HANAA ALY



Ain Shams University College of Women for
Arts, Science and Education
Physics Department

P-type transparent oxides for energy application

Thesis

Submitted to Physics department
Faculty of Women for Arts, Science and Education
Ain Shams University
For the Degree of PhD of Science
(Solid state physics)

Presented by

Hagar Mohamed Mohamed Abdelwahab
(M.Sc .Physics, 2016)

Supervision

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2021



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Title of the thesis
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Ain Shams University College of Women for
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Student name: Hagar Mohamed Mohamed Abdelwahab

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Year of M.Sc.: 2016

Year of Approval: 2021

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

AZAM

وَقَدْ عَلِمْنَا

DEDICATION

I dedicate this Thesis to,,,

My Father" mercy of Allah on him",

My Mother,

My Sisters and Brother,

All My Family, Friends, Colleagues, Supervisors

*Who always supported and helped me during the
difficult time.*

Acknowledgment

