

Dedication

*Immortality Paradise to..... Mai who taught me
the thrill of life*

Guiding light to Education..... My beloved father

Candles brightened my way my brothers

My Professors; venerable sources of knowledge

My friends, colleagues

With all my love and gratitude I dedicate this research.

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Abstract

Solar Energy is becoming a very recognized and reliable alternative source. The challenge is the very high cost of fabrication so; many studies were done in the field as a result there is new direction in this aspect.

It is material science and Nano technology. The fabrication using such technique is cheap to some extent, and flexible; for instances "spray" on walls of the cell, printing on papers or even developing very thin nanoparticles of silicon, and colloidal quantum dots; within mind of course improving the efficiency to the maximum range.

المستخلص

أصبحت الطاقة الشمسية من الطاقات التي يُعتمد عليها كمصدر بديل. الا ان التحدي الذي يواجهها هو التكلفة العالية للتصنيع. لذلك اجريت الكثير من الدراسات في هذا المضمار مما جعل الحل يكمن في علم المواد و تكنولوجيا النانو وإستخدام الأخير قلل من التكلفة الي حد ملحوظ . استخدام تقنية النانو تمثل في صناعة الافلام الرقيقة و الرش علي حائل و تصنيع مواد مرنة، ايضاً امكن معالجة المواد السليكونية احادية البلورة (النقاط الكمومية). كل هذه الحلول مع الوضع في الاعتبار تحدي اخر هام وهو تطوير و رفع كفاءة الخلية الي اعلي قيمة ممكنة.

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