

## **Dedication**

To my Soul of my Father, Mother, Sister, Brothers,  
Husband and Sons

# **Acknowledgment**

I would like to thanks my supervisor Dr.Shawgy Hussein Abdalla for help, preparation, completion of this research and support offered.

Special thanks to the University of Alfashir for scholar ship.

My deepest thanks to my family and all friends for their encouragement and assistant, My direct thanks to Eman Alfatih and Ola Alfatih for their best typing.

# Abstract

We study the tracial approximation of a class of  $C^*$ -algebra. A classification is given of certain separable unclear  $C^*$ -algebras not necessarily of real rank zero, namely, the class of separable simple  $C^*$ -algebras which are inductive limits of continuous-trace  $C^*$ -algebra whose building blocks has spectrum homomorphic to the closed interval of zero and one.

We introduce and study the  $C^*$ -algebra associated with topological graphs.

We show a sufficient conditions on topological graphs so that associated  $C^*$ -algebras are simple and purely infinite. We also show the properties of projections of norm one on general Banach algebras. We give the relation of conditional expectation for algebras in harmonic analysis.

تمت دراسة التقريب الأثري لعائلة من جبر - ١ .  
تم اعطاء تصنيف لجبريات - ٢ النوية الفصوص المعينة التي ليست  
بالضرورة صفر الرتبة الحقيقية هي فرضاً و عائلة جبريات - ٣ البسيطة  
الفصوص والتي هي نهايات استنتاج لجبريات - ٤ الاثر المستمرة حيث  
مربعات نبائها له طيف هومومورفك الى الفترة المغلقة من الصفر الى  
الواحد.

تم ادخال ودراسة جبر - ٥ المشارك مع البيانات الطوبولوجية. تم ايضاح  
شروط كافية على البيانات الطوبولوجية وعليه جبريات - ٦ المشاركة تكون  
بسيطة ولانهاية بحتة. ايضاً تم ايضاح خصائص مساقط لها تنظيم طولها  
واحد على جبريات باناخ العامة. تم اعطاء علاقة توقعات للجبريات في  
التحليل التوافقي.

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