

Dedication

**To my parents
And to my husband**

Acknowledgements

I thank Allah for giving me the health and strength which enabled me to complete this study.

I sincerely thank my supervisor Prof. **Shawgy Hussein AbdAllah** for his professional guidance, support and advice throughout the process of this study.

Last but not least, thank my family and my husband for their support and advice.

Abstract

We prove that a graph C^* -algebra with exactly one proper nontrivial ideal is classified up to stable isomorphism by its associated six-term exact sequence in K -theory. We prove that a similar classification also holds for a graph C^* -algebra with a largest proper ideal that is an AF-algebra. Our results are based on a general method developed by the Restorff and Ruiz. As a key step in the argument, we show to produce stability for certain full hereditary sub algebras associated to such graph C^* -algebras. We further prove that, except under Circumstance, an unique proper nontrivial idea in a graph C^* -algebra is stable.

المخلص

في هذا البحث قمنا بإثبات جبر- C^* مثالي غير بديهى تام واحد بالضبط تصنيف التماثل المستقر بواسطة مشاركة متتالية ست-حد بالضبط في نظرية- K وسنبرهن أن التصنيف المماثل صحيح لبيان جبر- C^* مع مثالي تام صحيح والنتائج التي حصلنا عليها تعتمد أساساً على طريقة عامة يتم تطويرها بواسطة المؤلفين ريستوفر - وريس كخطوة مفتاحية لهذه الطريقة.

وسنو ضح أنه كيف يمكن تحقيق الاستقرار لجرىات جزئية وراثية كاملة ومحددة مع اضافة إلى ذلك سنبرهن أنه عدا تحت ظروف غير بديهية, في بيان جبر- C^* أن هنالك مثالية صحيحة وغير بديهية بحيث تكون وحيدة ومستقرة.

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