DeDication

To My father,

  Mother,

    Brothers,

     Sisters

      and husband

Acknowledgements

Abstract

We study the gluing problem widely met in the fusion systems of the symmetric and linear groups. We show the global regularity for sub-groups for sub-Laplace equations on homogenous groups and the structure of power bounded elements of locally compact groups. We give applications to group representations and functional equations.

الخلاصة

تمت دراسة مسألة التصميغ على نحو واسع فى أنظمة الإندماج للزمر الخطية والمتماثلة. تم توضيح الانتظامية الشاملة لمعادلات لابلاس الجزئية كل الزمر المتجانسة وبناء العناصر المحدودة القوى لأمر التراص الموضعية ثم اعطاء تطبيقات لتمثيلات الزمن وجداول الفئة والمعادلات الدالية.

List of Contents

	Page No
Dedication	I
Acknowledgments	II
Abstract	III
Abstract (Arabic)	IV
List of Contents	V
Chapter One **Fusion Systems of the symmetric Alternating and Linear groups**	
Section (1.1): Bereden Cohomology and Basic p.	1
Section (1.2): Solutions of Fusion Systems for $Gl_d(p^r)$ and $Sl_p(P^r)$ at any p.	17
Section (1.3): Commutators and Centralisers in Permutation Groups with Calculation of Beredan Cohomology Groups.	33
Chapter Two **Orlicz Regularity for sub-Laplace Equations on Homogenous Groups**	
Section (2.1): Homogenous and estimates of singular integral equations.	56
Section (2.2): Lemmas and Results	71
Chapter Three **The Structure in Fourier-Dtielties Algebras of Locally Compact Groups**	
Section (3.1): The sequence $\{U^n\}_{n\in N}$ the set F_u with a main Structure.	78
Section (3.2): Charcterizing U^*- Convergence of the Sequence $\{U^n\}_{n\in N}$.	93
Chapter Four **Sub additive Set-Functions on Semi Groups and Functional Equations**	
Section (4.1): Sets Measure Spaces with Perturbatios of Subadditivity.	103
Section (4.2): Locally Invariant Dubspaces and Functional Equations.	115
References	125