

Contents

Abstract	vii
Preface	ix
Introduction	xi
Part A. Representation Theory	1
Chapter 1. General representations of \mathcal{O}_d on a separable Hilbert space	3
Chapter 2. The free group on d generators	12
Chapter 3. β -KMS states for one-parameter subgroups of the action of \mathbb{T}^d on \mathcal{O}_d	18
Chapter 4. Subalgebras of \mathcal{O}_d	22
Part B. Numerical AF-Invariants	43
Chapter 5. The dimension group of \mathfrak{A}_L	45
Chapter 6. Invariants related to the Perron–Frobenius eigenvalue	58
Chapter 7. The invariants N , D , $\text{Prim}(m_N)$, $\text{Prim}(R_D)$, $\text{Prim}(Q_{N-D})$	61
Chapter 8. The invariants $K_0(\mathfrak{A}_L) \otimes_{\mathbb{Z}} \mathbb{Z}_n$ and $(\ker \tau) \otimes_{\mathbb{Z}} \mathbb{Z}_n$ for $n = 2, 3, 4, \dots$	74
Chapter 9. Associated structure of the groups $K_0(\mathfrak{A}_L)$ and $\ker \tau$	80
Chapter 10. The invariant $\text{Ext}(\tau(K_0(\mathfrak{A}_L)), \ker \tau)$	85
Chapter 11. Scaling and non-isomorphism	90
Chapter 12. Subgroups of $G_0 = \bigcup_{n=0}^{\infty} J_0^{-n} \mathcal{L}$	113
Chapter 13. Classification of the AF-algebras \mathfrak{A}_L with $\text{rank}(K_0(\mathfrak{A}_L)) = 2$	116
Chapter 14. Linear algebra of J	126
Chapter 15. Lattice points	129
Chapter 16. Complete classification in the cases $\lambda = 2$, $N = 2, 3, 4$	131
Chapter 17. Complete classification in the case $\lambda = m_N$	141
1. The case $N = 1$	149

2. The case $N = 2$	149
3. The case $N = 3$	149
4. The case $N \geq 4$	151
Chapter 18. Further comments on two examples from Chapter 16	160
Bibliography	166
List of Figures	170
List of Tables	172
List of Terms and Symbols	173