

Contents

Chapter 1. Introduction	1
Chapter 2. Preliminaries	11
2.1. Operator algebras	11
2.2. Semigroups	15
2.3. Completely positive definite functions of groups	17
2.4. Completely positive definite functions of semigroups	18
2.5. Lattice-ordered abelian groups	22
Chapter 3. Semicrossed products by abelian semigroups	27
3.1. Defining semicrossed products by abelian semigroups	27
3.2. The unitary semicrossed product	30
3.3. The isometric semicrossed product	34
3.4. The contractive semicrossed product by \mathbb{Z}_+^2	37
3.5. The Fock algebra	42
Chapter 4. Nica-covariant semicrossed products	45
4.1. The regular contractive semicrossed product	45
4.2. The Nica-covariant semicrossed product	46
4.3. The Nica-covariant semicrossed product by \mathbb{Z}_+^n	52
4.4. Minimality and ideal structure	67
4.5. Comparison with C^* -correspondences and product systems	71
Chapter 5. Semicrossed products by non-abelian semigroups	73
5.1. Possible extensions to non-abelian semigroups	73
5.2. The semicrossed product by an Ore semigroup	74
5.3. The semicrossed product by \mathbb{F}_+^n	80
Bibliography	93