

Contents

Chapter 1. Introduction	1
1.1. Motivation	1
1.2. Subject of the paper	3
1.3. Organization of the paper	5
Acknowledgment	6
Chapter 2. Preliminaries on actions of countable amenable groups	7
2.1. Group actions, subshifts, symbolic extensions, block codes	7
2.2. An ε -modification, (K, ε) -invariance, Følner sequence, amenability	9
2.3. The Choquet simplex of invariant probability measures	10
2.4. The ergodic theorem	11
2.5. Entropy	12
2.6. Zero-dimensional systems	15
Chapter 3. Entropy structure and the easy direction of the main theorem	17
3.1. Structures	17
3.2. Superenvelopes	17
3.3. Definition of the entropy structure	18
3.4. Symbolic extensions—the easy direction	20
Chapter 4. Quasitilings and tiling systems	25
4.1. Terminology and facts not requiring amenability	25
4.2. Terminology and facts requiring amenability	28
4.3. Tiled entropy	32
Chapter 5. Quasi-symbolic extensions—the hard direction of the main theorem	43
Chapter 6. The comparison property	53
6.1. Definition of the comparison property	53
6.2. Banach density interpretation of the comparison property	55
6.3. Comparison property of subexponential groups	64
Chapter 7. Encodable tiling systems	71
7.1. Encodable systems of quasitiling s	71
7.2. Encodability of tiling systems versus the comparison property	79
7.3. Symbolic extensions for actions of selected groups	84
Appendix A	89
Bibliography	93