

Contents

KLAUS KEIMEL

The Representation of Lattice-Ordered Groups and Rings by Sections in Sheaves

Introduction	2
1. Preliminaries on Lattice-Ordered Rings and their Ideal Theory	7
2. Sheaves of Lattice-Ordered Rings	18
3. The General Representation Theorem	24
4. Representation over the Direct Factor Space	33
5. Polar Ideals and Function Rings	38
6. Representation over the Space of Minimal Irreducible $\mathcal{L}$ -Ideals	48
7. Quasiregular and Hyperarchimedean f -Rings	56
8. Representation over the Space of Maximal $\mathcal{L}$ -Ideals	64
9. Dominated $\mathcal{L}$ -Ideals	74
Bibliographical and Other Remarks	86
Bibliography	96

SILVIU TELEMAN

Theory of Harmonic Algebras with Applications to von Neumann Algebras and Cohomology of Locally Compact Spaces (de Rham's Theorem)

Preface	100
Theory of Harmonic Algebras	104
Introduction	104
1. Harmonic Algebras	106
2. Representation by Sheaves of Harmonic Algebras	139
3. Algebraic Reduction Theory for von Neumann Algebras	159

4. Simultaneous Reduction for $\mathcal{A}$ and $\mathcal{A}'$	187
5. Algebraic Reduction and Irreducible Representations . .	194
6. Algebraic Reduction and Pure States	200
7. Further Properties of the Algebraic Factors	203
8. Algebraic Reduction and Type Theory	210
9. Representation by Sheaves of Modules over Harmonic Algebras	219
10. The Localization of Modules	236
11. The Support of a Module	241
12. Localizable Mappings	246
13. The Representation Functors	254
14. Operations with Modules	261
15. The Representation of the Lie Algebra of Derivations .	276
16. Derivation Laws	280
17. The Lie Derivation	295
18. Changing the Ring of Scalars	299
19. De Rham's Theorem	301
20. An Example	309
Bibliography	311

NOTE: Volume I of the Tulane Ring and Operator Theory series contains the following contribution in which the representation of rings by sections in sheaves plays a role:

SKEW FIELDS OF FRACTIONS, AND THE PRIME SPECTRUM OF A GENERAL

RING, Paul M. Cohn. 1-71