

Contents

<i>Publishers Note</i>	v
<i>Introduction</i>	1
<i>Chapter 1—Siegel Domains</i>	15
1. Siegel Domains of Genus 1	16
2. Siegel Domains of Genus 2	21
3. Siegel Domains of Genus 3	30
4. Bounded Holomorphic Hulls	41
<i>Chapter 2—The Geometry of Homogeneous Domains</i>	45
1. Statement of Fundamental Results	45
2. j -algebras	46
3. Normal j -algebras	51
4. j -ideals	64
5. Homogeneous Siegel Domains of Genus 2	66
6. Universal j -algebras	73
7. Canonical Models of Bounded Homogeneous Domains	76
8. Canonical Models of Symmetric Domains	80
9. The Geometry of Classical Domains	83
10. Classical Domains of the First Type	91
11. Classical Domains of the Second and Third Types	114
<i>Chapter 3—Discrete Groups of Analytic Automorphisms of Bounded Domains</i>	131
1. Introduction	131
2. Construction of the Extension of the Factor Space \mathcal{D}/Γ	133
3. Analytic Normal Spaces	136
4. Poincaré Series	140
5. Lemmas	146
6. Arithmetic Groups in Symmetric Domains	153
7. The Andreotti-Grauert Method	159
<i>Chapter 4—Automorphic Forms</i>	163
Introduction	163
1. Fourier-Jacobi Series	163
2. Automorphic Forms	173
3. The Theorem on Algebraic Relations	177

<i>Chapter 5—Abelian Modular Functions</i>	.	.	.	.	.	.	.	179
1. Statement of Fundamental Results	.	.	.	.	.	.	.	179
2. The Domains $K(\mathbb{Q}, R)$	.	.	.	.	.	.	.	184
3. The Modular Groups $\mathcal{G}(\mathbb{Q}, R)$	.	.	.	.	.	.	.	194
<i>Chapter 6—Classification of Bounded Homogeneous Domains</i>	.	.	.	.	.	.	.	199
1. Introduction	.	.	.	.	.	.	.	199
2. Isometric Mappings	.	.	.	.	.	.	.	200
3. Complexes	.	.	.	.	.	.	.	204
4. Construction of j -algebras	.	.	.	.	.	.	.	208
5. Homogeneous Imbeddings of Bounded Domains in the Siegel Disk K_n	.	.	.	.	.	.	.	211
6. Algebraic j -algebras	.	.	.	.	.	.	.	216
<i>Appendix</i>	.	.	.	.	.	.	.	219
Introduction	.	.	.	.	.	.	.	219
1. Siegel Domains of Genus 1 and 2	.	.	.	.	.	.	.	225
2. Decomposition of a j -algebra Associated with a Commutative Ideal	.	.	.	.	.	.	.	231
3. Algebraic j -algebras	.	.	.	.	.	.	.	238
4. Decomposition of a j -algebra Associated with a Commutative Ideal (continuation)	.	.	.	.	.	.	.	242
5. Representation of a Homogeneous Domain in the Form of a Siegel Domain of Genus 2	.	.	.	.	.	.	.	253
<i>References</i>	.	.	.	.	.	.	.	254
<i>Index</i>	.	.	.	.	.	.	.	257