

Table of Contents

Introduction	V
Chapter 1. Fans and Toric Varieties	1
1.1 Strongly Convex Rational Polyhedral Cones and Fans	1
1.2 Toric Varieties	4
1.3 Orbit Decomposition, Manifolds with Corners and the Fundamental Group	10
1.4 Nonsingularity and Compactness	15
1.5 Equivariant Holomorphic Maps	19
1.6 Low Dimensional Toric Singularities and Finite Continued Fractions	24
1.7 Birational Geometry of Toric Varieties	37
Chapter 2. Integral Convex Polytopes and Toric Projective Varieties	66
2.1 Equivariant Line Bundles, Invariant Cartier Divisors and Support Functions	66
2.2 Cohomology of Compact Toric Varieties	71
2.3 Equivariant Holomorphic Maps to Projective Spaces	81
2.4 Toric Projective Varieties	93
2.5 Mori's Theory and Toric Projective Varieties	104
Chapter 3. Toric Varieties and Holomorphic Differential Forms	115
3.1 Differential Forms with Logarithmic Poles	115
3.2 Ishida's Complexes	118
3.3 Compact Toric Varieties and Holomorphic Differential Forms	129
3.4 Automorphism Groups of Toric Varieties and the Cremona Groups	135
Chapter 4. Applications	147
4.1 Periodic Continued Fractions and Two-Dimensional Toric Varieties ..	148
4.2 Cusp Singularities	153
4.3 Compact Quotients of Toric Varieties	169

Appendix. Geometry of Convex Sets	173
A.1 Convex Polyhedral Cones	173
A.2 Convex Polyhedra	179
A.3 Support Functions	182
A.4 The Mixed Volume of Compact Convex Sets	186
A.5 Morphology for Convex Polytopes	189
References	198
Subject Index	205