

Introduction . . . . .	VII
Notations and conventions . . . . .	XVI
Chapter I. Non-complete algebraic surfaces with logarithmic Kodaira dimension $-\infty$ . . . . .	1
Section 1. Logarithmic Kodaira dimension . . . . .	1
Section 2. Algebraic surfaces containing cylinderlike open sets . . . . .	4
Section 3. Fujita's theory of pseudo-effective divisors .	36
Section 4. Regular subrings of a polynomial ring . . . . .	47
Section 5. Examples of non-complete algebraic surfaces with logarithmic Kodaira dimension $-\infty$ . . . . .	92
Section 6. Normal affine surfaces containing cylinderlike open sets . . . . .	119
Chapter II. Non-complete algebraic surfaces with logarithmic Kodaira dimension 0 or 1 . . . . .	130
Section 1. The Zariski decomposition of a pseudo-effective divisor $D+K_V$ . . . . .	130
Section 2. The structure theorem for relatively minimal non-complete algebraic surfaces with logarithmic Kodaira dimension 0 or 1 . . . . .	154
Section 3. The proof of the structure theorem, I . . . . .	157
Section 4. The proof of the structure theorem, II . . . . .	176
Section 5. Affine algebraic surfaces with logarithmic Kodaira dimension 0 or 1 . . . . .	183

Chapter III. Non-complete algebraic surfaces with logarithmic Kodaira dimension 2 . . . . .	192
Section 1. The structure theorem for non-complete algebraic surfaces with logarithmic Kodaira dimension 2 .	192
Section 2. Curves contractible by the pluri-quasicanonical morphisms . . . . .	195
Section 3. The pluri-quasicanonical ring and the quasi- canonical model . . . . .	219
References . . . . .	234
Subject Index . . . . .	238