

Fujita, Takao

Fractionally logarithmic canonical rings of algebraic surfaces. (English) Zbl 0543.14004

J. Fac. Sci., Univ. Tokyo, Sect. I A 30, 685-696 (1984).

Main Theorem: Let D be an effective \mathbb{Q} -divisor on a smooth algebraic surface S defined over a field of any characteristic. Let K be the canonical bundle of S and suppose that $K + D$ is pseudo-effective and that D is reduced, i.e., the coefficient of each prime component of D is not greater than one. Then the semipositive part of the Zariski decomposition of $K + D$ is semiample. In particular $\kappa(K + D, S) \geq 0$ and the graded algebra associated to $K + D$ is finitely generated. A notion of minimality due to Sakai plays an important role in the proof, which consists of case-by-case arguments depending on the value of $\kappa(K + D, S)$.

Reviewer: Takao Fujita

MSC:

- 14C15 (Equivariant) Chow groups and rings; motives
- 14C20 Divisors, linear systems, invertible sheaves
- 14J10 Families, moduli, classification: algebraic theory
- 14E30 Minimal model program (Mori theory, extremal rays)
- 14J17 Singularities of surfaces or higher-dimensional varieties

Cited in **3** Reviews
Cited in **18** Documents

Keywords:

logarithmic canonical ring; semiample Zariski decomposition; Kodaira dimension; effective divisor