

ERRATUM

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Here I collect my personal erratum to the book “Algebraic Varieties: Minimal Models and Finite Generation” of Kawamata, translated by myself.

- (1) P136, L-3: here $N^1(Y)_{\mathbf{R}}$ might not be generated by those divisors, but it will not affect the calculation, we just need to choose a suitable H .
- (2) P151, L7: here (Y', C'') might not be a minimal model in our sense: it might not be DLT, but it is only $\overline{\text{KLT}}$. So we might consider to weaken the condition on singluarties of minimal models to allow this situation.
- (3) P183 & P204: in the proof of the nonvanishing theorem (Theorem 3.5.1), there is no need to assume the existence of PL flips, because the existence of minimal models for $K_X + B$ relatively big implies the existence of flips already.
- (4) P189: in the beginning of Proof of Theorem 3.2.1, I should be careful when claiming that all pairs have the same minimal model by the finiteness of minimal models. Here we should say that there are finitely many minimal models of $(Y, B_{Y,m})$, and all of them have natural morphisms to the canonical model of (Y, B_Y) if m is sufficiently large. This is sufficient for taking a common higher model Y' and taking limit to get P .
- (5) P197–P202: this one might be subtle. In this section our aim is to prove the existence of minimal models. In the last part of Step 4, we need to show that P does not contain any LC center, but the argument is not rigorous. So we correct this by strengthen the statement of this section as the following: we will show the existence of **strong** minimal models in Theorem 3.4.1. Here by a **strong** minimal model, I mean a minimal model $\alpha : (X, B) \dashrightarrow (Y, C)$ such that α is isomorphic over the generic point of any LC center of (Y, C) . Note that any minimal model from the MMP is strong, and any minimal model for KLT pairs is strong. We can prove this strengthen statement by the same argument, and in the last part of Step 4, P does not contain any LC center as P is contracted. Also the minimal model we construct from weak minimal model by Lemma 3.4.5 is also strong, as no LC center is affected.
- (6) P206, L7: here the correct equation should be $N_t = (1+t)N_{\sigma}(g^*(K_X + B)) + E_t$.
- (7) P207, L3: here as we assumed the existence and finiteness of minimal models for $K_X + B$ relatively big, we may assume that the minimal model $Y_{t,v}$ is obtained by a $(K_X + B_{t,v})$ -MMP over S with scaling

of $v + A$. This will be used in the last part of Step 4 (derive a contradiction by special termination).

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