ERRATUM

All page and line numbers refer to the published version.

Proof of Lemma 4.6. The part of the proof starting on line 29 on page 628 should be modified as follows:

Let C_i be the closure of a positive dimensional strata of $(D_i, (D - D_i)|_{D_i})$ such that $(K_X + D)|_{C_i}$ is not nef and $\dim C_i$ is minimal. Note that C_i comes with a boundary divisor B_i such that $\mathscr{O}_{C_i}(K_{C_i} + B_i) \cong (\mathscr{L}_i^*)^{\otimes n}|_{C_i}$ by the adjunction formula. By the cone theorem for log canonical spaces (see [Fuj11, Theorem 1.4]), there exists an extremal rational curve $\Gamma_i \subseteq C_i$ with

$$0 < -(K_{C_i} + B_i) \cdot \Gamma_i = n \deg_{\Gamma_i} \mathscr{L}_i \leqslant 2 \dim C_i \leqslant 2n - 2.$$

This immediately implies $\deg_{\Gamma_i} \mathscr{L}_i = 1$, and $-K_{C_i} \cdot \Gamma_i = n + B_i \cdot \Gamma_i$. Notice that $\Gamma_i \not\subseteq \operatorname{Supp} B_i$ by choice of C_i, and hence $-K_{C_i} \cdot \Gamma_i \geqslant n$. On the other hand, by the cone theorem, there exists a curve rational curve $\Gamma'_i \subseteq C_i$ with $0 < -K_{C_i} \cdot \Gamma'_i \leqslant \dim C_i + 1$ and $\Gamma'_i \equiv \lambda_i \Gamma_i$ for positive number $\lambda_i \in \mathbb{R}$. But then $\lambda_i = \deg_{\Gamma'_i} \mathscr{L}_i \geqslant 1$. This in turn implies that $\dim C_i = n - 1$. Hence $C_i = D_i$, $-K_{C_i} \cdot \Gamma_i = n$, and $B_i \cdot \Gamma_i = 0$. From [Wiś91, Theorem 1.1], we conclude that D_i is a Fano manifold with Picard number 1. Then [KO73] implies that $D_i \cong \mathbb{P}^{n-1}$ and $\mathscr{L}_i \cong \mathscr{O}_{\mathbb{P}^{n-1}}(1)$. Moreover $B_i = 0$, and hence D_i is a connected component of D. This finishes the proof of the lemma.

Proof of Theorem 7.1, Step 7.

Line 3 on page 643 should read:

The final step of the argument is similar to that of [31, Theorem 6.1]. Suppose first $\dim Y_2 \geqslant 2$.

The end of proof of Step 7 should be modified as follows:

Suppose finally $\dim Y_2 = 1$. Recall that $K_X + D \sim_{\mathbb{Q}} \beta_2^*(K_{X_2} + D_2)$. It follows that the pull-back map of Kähler differentials

$$\beta_2^* \Omega^1_{X_2}(\log D_2) \to \Omega^1_X(\log (D)$$

is an isomorphism. This in turn implies that the locally free sheaf $\Omega^1_{X_2}(\log D_2)$ is semistable with respect to any ample divisor and projectively flat. Let B_2 be the (reduced) divisor Y_2 such that $D_2 = f_2^* B_2$. The claim now follows from the Arakelov inequality as in the previous case using the exact sequence

$$0 \to f_2^* \Omega^1_{Y_2}(\log (B_2) \to \Omega^1_{X_2}(\log D_2) \to \Omega^1_{X_2/Y_2}(\log D_2) \cong \Omega^1_{X_2/Y_2} \to 0.$$

References

[Fuj11] Osamu Fujino, *Non-vanishing theorem for log canonical pairs*, J. Algebraic Geom. **20** (2011), no. 4, 771–783.

[KO73] S. Kobayashi and T. Ochiai, *Characterizations of complex projective spaces and hyperquadrics*, J. Math. Kyoto Univ. **13** (1973), 31–47.

[Wiś91] J. A. Wiśniewski, *On contractions of extremal rays of Fano manifolds*, J. Reine Angew. Math. **417** (1991), 141–157.