

Erratum to the paper

Projective normality and syzygies of algebraic surfaces

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By *F. J. Gallego* at Madrid and *B. P. Purnaprajna* at Lawrence

In this note we correct some typos and inaccuracies that appeared in our article “Projective normality and syzygies of algebraic surfaces” ([GP1]).

Theorems 0.2, 0.3 and the statement about projective normality of surfaces of general type that appear in the introduction of the above mentioned article are a summary of some theorems proved in Sections 2, 3, 5 and in [GP2]. In the process of writing the summary for the introduction we had left out some hypotheses in the statements of the above mentioned theorems. However, the original theorems (Theorems 2.2, 2.14, 4.1, Corollaries 4.5, 5.7.1 and 5.9) in the body of the paper have all the necessary hypotheses and are correct.

Theorems 0.2 and 0.3 should have read as follows:

Theorem 0.2. *Let X be a minimal surface with Kodaira dimension 0 and let B_1, \dots, B_n be numerically equivalent, ample and base-point-free line bundles. Assume that the sectional genus of B_i is greater than or equal to 4 if X is an Enriques, Abelian or bielliptic surface and greater than or equal to 3 if X is a K3 surface. Then $B_1 \otimes \dots \otimes B_n$ satisfies N_p for all $n \geq p + 1$ and $p \geq 1$.*

Theorem 0.3. *Let X be a minimal surface with Kodaira dimension 0. Let B be an ample and base-point-free line bundle whose sectional genus is greater than or equal to 4 if X is an Enriques, Abelian or bielliptic surface and greater than or equal to 3 if X is a K3 surface. Let A be an ample line bundle. If $n \geq p + 1$ and $p \geq 1$, then the bundle $K_X \otimes B^{\otimes n}$ satisfies N_p and if $m \geq 2p + 2$ and $p \geq 1$, then the bundle $K_X \otimes A^{\otimes m}$ satisfies N_p .*

The theorem regarding the projective normality of pluricanonical models of surfaces of general type that is stated in the introduction should have read as follows:

Let X be a surface of general type such that $K_X^2 \geq 2$ and $p_g \geq 1$ if X is regular or $K_X^2 \geq 5$. If $n \geq 5$, then the image of X by $|K_X^{\otimes n}|$ is projectively normal.

Here are some minor typos corrected: In Corollary 2.15, the hypothesis $B^2 \geq 6$ and $p \geq 1$ is needed (note that Corollary 2.15 is derived from Theorem 2.14, where this hypothesis appears and is required). In Corollaries 1.6, 5.11 and 5.13, $p \geq 1$ should be added.

References

- [GP1] *F. J. Gallego and B. P. Purnaprajna, Projective normality and syzygies of algebraic surfaces, J. reine angew. Math* **506** (1999), 145–180.
[GP2] *F. J. Gallego and B. P. Purnaprajna, Vanishing theorems and syzygies for K3 surfaces and Fano varieties, J. Pure App. Alg.*, to appear.

Universidad Complutense de Madrid, Departamento de Algebra, Facultad de Matemáticas, 28040 Madrid
e-mail: gallego@eucmos.sim.ucm.es

University of Kansas, 405 Snow Hall, Department of Mathematics, Lawrence, Kansas 66045-2142
e-mail: purna@math.ukans.edu

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