

The geometry of holomorphic and algebraic curves in
complex algebraic varieties

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An effective Bogomolov theorem on the
boundedness of curves of given genus on a surface
of general type

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Abstract

Let X be a minimal projective surface of general type defined over the complex numbers and let $C \subset X$ be an irreducible curve of geometric genus g . Assume that K_X^2 is greater than the topological Euler number $c_2(X)$. Then we prove that the “canonical degree” CK_X of C is uniformly bounded in terms of the given invariants g , K_X^2 and $c_2(X)$, thus giving an effective version of a theorem of Bogomolov on the boundedness of the curves of fixed genus in X .