

Pokora, Piotr; Roulleau, Xavier; Szemberg, Tomasz

Bounded negativity, Harbourne constants and transversal arrangements of curves. (Néga-tivité bornée, constantes de Harbourne et arrangements transverses de courbes.) (English.

French summary) [Zbl 1404.14014](#)

Ann. Inst. Fourier 67, No. 6, 2719-2735 (2017).

The paper under review is devoted to birational geometry of complex algebraic surfaces. It is motivated by the Bounded Negativity Conjecture, which stipulates that for every smooth complex projective surface X , there exists a number $b(X)$, which bounds the self-intersection of an arbitrary reduced divisor on X from below (it is clear that no such upper bound can exist). The authors provide lower bound on the self-intersection of certain classes of divisors on blow-ups of surfaces with non-negative Kodaira dimension (Theorem A) and on blow-ups of \mathbb{P}^2 (Theorem B).

The paper is to a far extent self-contained, the discussion is streamlined and the arguments are transparent, even if occasionally technical. The main tools are variants of the Miyaoka-Yau inequality and the analysis of some numerical invariants, here Harbourne constants.

Reviewer: **Justyna Szpond (Kraków)**

MSC:

14C20 Divisors, linear systems, invertible sheaves

14J70 Hypersurfaces and algebraic geometry

Cited in **5** Documents

Keywords:

curve arrangements; algebraic surfaces; Miyaoka inequality; blow-ups; negativity curves; bounded negativity conjecture

Full Text: [DOI](#) [arXiv](#)

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