A smooth projective $n$-fold is of general type if some pluricanonical map is birational onto the image. It is important, for many reason, to find a multiple that works for any variety of general type once fixed the dimension. The surface case is the celebrated result of E. Bombieri [Publ. Math., Inst. Hautes Étud. Sci. 42, 171–219 (1972; Zbl 0259.14005)].

The paper under review addresses the above question for 3-folds. The result obtained is interesting both in itself and for the techniques developed. The authors are able to show that on every smooth 3-fold of general type, say $X$, $h^0(12K_X) \neq 0$ and $h^0(24K_X) \geq 24$. This together with standard arguments gives an effective lower bound on the volume of 3-folds and on the birationality of the pluricanonical map. The bound obtained are certainly not sharp but the techniques used suggest good sharpening, already announced in this paper. The results are based on a very nice idea of putting a partial ordering on the possible singularities that can occur on minimal models of these 3-folds. This order, plugged in standard Euler characteristic inequalities, produces many unexpected relations between plurigenera and allows to produce the effective bounds already recalled.

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