

A fibered power theorem for pairs of log general type

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Abstract:

A theorem of Caporaso, Harris, and Mazur states that a high fibered power of a family of curves of general type admits a dominant rational map to a variety of general type. This theorem, which also has strong arithmetic implications when assuming Lang's Conjecture, was generalized to surfaces of general type by Hassett, and to varieties of general type by Abramovich. We introduce an analogous theorem for the case of pairs of log general type. Namely we prove that, given a family of pairs of log general type, after a birational modification of the base, there is a morphism from a high fibered power of the family to a pair of log general type. If in addition the general fiber is openly log canonical, then there is a morphism of a high fibered power of the original family to a pair openly of log general type.