

1161-14-257

B. Bakker*, UIC, Dept. of Math, 851 S. Morgan St., Chicago, IL 60607, and **H. Guenancia** and **C. Lehn**. *Towards a BBDGGHKP decomposition theorem for nonprojective Calabi–Yau varieties.*

Calabi–Yau manifolds are built out of simple pieces in a precise sense by the Beauville–Bogomolov decomposition theorem: any Calabi–Yau Kahler manifold up to an étale cover is a product of complex tori, irreducible holomorphic symplectic manifolds, and strict Calabi–Yau manifolds (ones with no holomorphic forms except a unique top form). Recent work of Druel–Guenancia–Greb–Horing–Kebekus–Peternell extends this result to mildly singular projective Calabi–Yau varieties, and the proofs heavily use algebraic methods. In joint work with C. Lehn and H. Guenancia, we extend the decomposition to the nonprojective case for varieties admitting a (nonunique) symplectic form. We will also discuss progress towards the general case. (Received August 18, 2020)