

Beauville and Voisin have famously conjectured that the Chow ring of hyperkaehler varieties has a special property: the subring generated by divisors and Chern classes of the tangent bundle should inject into cohomology, under the cycle class map.

In dimension larger than 2, there is currently only one locally complete family of HK varieties for which this conjecture is known: the Fano varieties of lines in cubic fourfolds, for which Voisin has settled the conjecture by ingenious geometric arguments.

Recently I have proven the Beauville-Voisin conjecture for one other locally complete family of HK fourfolds: the double EPW sextics (constructed and studied intensively by O'Grady). The proof builds on lots of earlier work, and involves 3 different constructions of double EPW sextics.