

THE KUMMER CONSTRUCTION

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ABSTRACT. I will report on a joint project with J. Wiśniewski in which we studied a higher dimension generalization of the Kummer construction for surfaces. This leads to manifolds with trivial canonical class and first cohomology. The construction, via virtual Poincarè polynomial and McKay correspondence, allows the computation of the cohomology of these manifolds. One could expect to produce holomorphic symplectic manifolds out of this construction: for the moment, a part of the two series of examples constructed time ago by Beauville and Fujiki, other possibilities were ruled out.