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Chris R. McDaniel* (mcdaniel@math.umass.edu), Department of Mathematics, University of Massachusetts Amherst, 710 North Pleasant Street, Amherst, MA 01003. *The Strong Lefschetz Property for Co-invariant Rings of Finite Reflection Groups.*

Let W be a finite reflection group and let R_W denote its co-invariant algebra. If W is a Weyl group one can show that R_W has the strong Lefschetz property by appealing to the hard Lefschetz theorem in algebraic geometry. On the other hand, R_W admits a tensor product decomposition and one can show that if the factors in this decomposition have the strong Lefschetz property then so does R_W . We use this approach to give an “elementary” proof (i.e. a proof that does not appeal to algebraic geometry) that R_W has the strong Lefschetz property for reflection groups of classical type. (Received February 09, 2009)