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Ellen Kirkman* (kirkman@wfu.edu), Dept of Mathematics, Wake Forest University, Box 7388, Winston-Salem, NC 27109, and **James Kuzmanovich** and **James Zhang**. *Invariants of AS-Regular Algebras: Complete Intersections*. Preliminary report.

Let G be a finite group acting on an Artin-Schelter regular \mathbb{C} -algebra A . Extending results of Watanabe we give conditions when the invariant subring A^G is an Artin-Schelter Gorenstein algebra. When $A = \mathbb{C}[x_1, \dots, x_n]$ Gordeev (1986) and Nakajima (1984) independently determined when A^G is a complete intersection. We discuss extending these results to other Artin-Schelter regular algebras. (Received September 14, 2009)