1171-16-167 **Francesca Gandini*** (fra.gandi.phd@gmail.com). *Degree bounds for invariant skew polynomials.*

When we consider the action of a finite group on a polynomial ring, an invariant is a polynomial unchanged by the action. A famous result of Noether states that in characteristic zero the maximal degree of a minimal generating invariant is bounded above by the order of the group. Our work establishes that the same bound holds for invariant skew polynomials in the exterior algebra. Our approach to the problem relies on a theorem of Derksen that connects invariant theory to the study of ideals of subspace arrangements. We reduce the problem to establishing a bound on the Castelnuovo-Mumford regularity of intersections of linear ideals in the exterior algebra, which we prove using tools from representation theory. We also examine another result from classical invariant theory, Weyl's Polarization Theorem, and show that this result does not hold in the exterior algebra but also provide an alternative bound that does hold in this context. (Received August 10, 2021)