1116-20-1837   **Stephen M Gagola, Jr*** (`gagola@math.kent.edu`), Department of Mathematics, 1300 University Esplanade, Kent State University, Kent, OH 44242. *Linear group actions on related algebras.* Preliminary report.

Let G be a finite linear group in characteristic 0. It is well known that this action by G on the vector space induces related actions by G on other linear spaces, most notably the homogeneous components of the symmetric algebra of the original space, as well as the graded components of this algebra modulo homogeneous invariants of positive degree (the 'coinvariant' algebra). We explore this theme when the algebra is selected in a way adapted to the group. (Received September 21, 2015)