1106-16-1658 **W. Frank Moore*** (moorewf@wfu.edu), **Andrew Conner**, **Jason Gaddis** and **Ellen Kirkman**. *Understanding Auslander's Theorem for noncommutative algebras.* Preliminary report.

Let k be a field, let G be a finite subgroup of $\mathrm{GL}_n(k)$ whose order is invertible in k, and let G act on the polynomial algebra $S = k[x_1, \ldots, x_n]$ in the natural way. Let $R = S^G$ be the ring of invariants, and $S\#G$ denote the skew group ring.

A theorem of Auslander states that the map

$$\begin{aligned} \Phi : S\#G &\rightarrow \mathrm{End}_R(S) \\ s\#g &\mapsto (t- > sg(t)) \end{aligned}$$

is an isomorphism of graded algebras if G does not contain any nontrivial pseudo-reflections. We study the case of the skew-commutative polynomial ring $S_{-1} = k_{-1}[x_1, \ldots, x_n]$, and give evidence to support the fact that the groups to 'avoid' in this setting are different than in the commutative case. (Received September 14, 2014)