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Luigi Ferraro, Jason Gaddis and Robert Won* (robwon@uw.edu). *A translation principle for generalized Weyl algebras.* Preliminary report.

Stafford studied the infinite-dimensional primitive quotients of the universal enveloping algebra $U(Sl_2)$. These rings are parametrized by \mathbb{C} ; for each $\lambda \in \mathbb{C}$, there is a ring R_λ . Stafford proved a translation principle for these rings: as long as $\lambda \neq -2, -1$ then R_λ is Morita equivalent to $R_{\lambda+1}$. Each R_λ can be realized as a generalized Weyl algebra with base ring $k[z]$ and quadratic defining element. We study generalized Weyl algebras A with base ring $k[z]$ or $k[z, z^{-1}]$ with arbitrary defining element and prove a graded translation principle, showing that the noncommutative projective scheme $\text{qgrmod-}A$ is equivalent to the noncommutative projective scheme of a simple generalized Weyl algebra. This work is joint with Luigi Ferraro and Jason Gaddis. (Received January 14, 2019)