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Robert J Won* (rwon@math.ucsd.edu). *The category of graded modules of a generalized Weyl algebra*. Preliminary report.

The first Weyl algebra $A = k\langle x, y \rangle / (xy - yx - 1)$ is \mathbb{Z} -graded with $\deg x = 1$ and $\deg y = -1$. Generalized Weyl algebras are a class of noncommutative \mathbb{Z} -graded rings introduced by Vladimir Bavula which generalize the Weyl algebra. In this talk, we investigate the category of graded modules over certain generalized Weyl algebras. We construct commutative rings with equivalent graded module categories and discuss quotient stacks related to these rings. (Received September 21, 2015)