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Gail Letzter, Siddhartha Sahi and Hadi Salmasian* (hsalmasi@uottawa.ca), Department of Mathematics and Statistics, University of Ottawa, Ottawa, ON , Canada. *Quantum Weyl algebras and invariant theory of the locally finite part of $U_q(\mathfrak{gl}_n)$.*

We consider q -deformations of Weyl algebras that are obtained as twisted tensor products of two copies of the quantized coordinate ring of the $n \times n$ matrix space. Using these quantum Weyl algebras, we prove a number of results and formulate a conjecture concerning the invariant theory of $U_q(\mathfrak{gl}_n)$, and its locally finite part. This talk is based on an ongoing project with Gail Letzter and Siddhartha Sahi. (Received January 17, 2021)