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**Apoorva Khare\*** (khare@stanford.edu) and **Akaki Tikaradze**. *BGG Category  $\mathcal{O}$  over generalized Weyl algebras.*

Generalized Weyl algebras (GWAs), including down-up algebras and their quantum variants, have been the focus of much recent activity. In this talk, we first show that a large family of generalized down-up algebras, which are deformations of  $U(\mathfrak{sl}_2)$ , admit quantizations, which are deformations of  $U_q(\mathfrak{sl}_2)$ . Next, we study the BGG Category  $\mathcal{O}$  over a “triangular GWA”. More precisely, we study a block with finitely many simple objects, say  $n$ . We show that the endomorphism algebra of a projective generator of this block is finite-dimensional and graded Koszul. We also provide a presentation of this algebra, showing that it depends only on  $n$ . This shows that the blocks of  $\mathcal{O}$  for any two triangular GWAs, with the same number of simple objects in each, are Morita equivalent. (Received September 14, 2015)