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Travis Schedler* (trasched@math.uchicago.edu), 5734 S University Ave, Department of Mathematics, University of Chicago, Chicago, IL 60637, and **Victor Ginzburg**. *Noncommutative BV Structures, Differential Operators, and Deformation Quantization*. Preliminary report.

We extend double Poisson algebras and the noncommutative Schouten-Nijenhuis bracket of Van den Bergh to "twisted" BV and Poisson structures. These notions of BV and Poisson are the same as in the usual commutative case, except that one replaces vector spaces with \mathbb{S} -modules (graded vector spaces with actions of S_n on the n -th graded component for all n), and turns out to allow one to extend these notions to tensor algebras and similar algebras in the "free noncommutative" realm. Along the way, we generalize differential operators and the Heisenberg/Weil representation to the noncommutative setting. Finally, we formulate the question of deformation quantization in this setting, both in the case where the formal parameter is central and when it is free (and therefore not central). (Received January 14, 2007)