1025-16-240   **Brad Shelton*** (`shelton@math.uoregon.edu`), Department of Mathematics, University of Oregon, Eugene, OR 97403-1221, and **Thomas Cassidy** (`tcassicy@bucknell.edu`), Department of Mathematics, Bucknell University, PA. *Generalizing the notion of Koszul Algebra.*

We begin the study of a straightforward generalizaiton of the notion of Koszul algebra. Recall that a graded connected algebra is Koszul if its associated cohomology ring is nonzero only along the diagonal. This is a strong form of homological purity and purity is one of the main tools used to understand Koszul algebras. Our definition is intended to capture algebras that have many of the good properties of Koszul algebras, but simultaneously allow for algebras with relations in more than one degree. The cohomology ring of such an algebra cannot satisfy homological purity. The new class of algebras includes the recently introduced N-Koszul algebras, but it has the advantage of being closed under regular central extensions, graded Ore extensions, tensor products and other operations. (Received January 23, 2007)