

KOSZUL PAIRS

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Abstract: *Koszul rings were introduced by Beilinson, Ginzburg and Soergel as a natural generalization of Koszul algebras. In order to investigate some homological properties of this class of graded rings we introduce Koszul pairs, and then we briefly present their basic properties. The main examples of Koszul pairs are associated to certain braided bialgebras in the category of bimodules over a semisimple ring. Twisted tensor products of algebras provide other important examples. We further discuss how our results on Koszul pairs can be exploited to investigate Hochschild (co)homology of Koszul rings.*