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H. Ananthnarayan and **Ela Celikbas*** (celikbase@missouri.edu), Department of Mathematics, University of Missouri, Columbia, MO 65211, and **Zheng Yang**. *Connected sums of k -algebras*.

A connected sum, initially introduced by H. Ananthnarayan, L. Avramov, and F. Moore, is a construction that can be used to produce Gorenstein rings. In this talk we discuss a characterization of connected sums of k -algebras, and some relations between associated graded rings and connected sums. In particular, we observe that a Gorenstein Artin k -algebra is a connected sum with certain conditions on its associated graded ring. We also show some applications of this result. (Received September 16, 2013)