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**Georgia Benkart\*** ([benkart@math.wisc.edu](mailto:benkart@math.wisc.edu)), Department of Mathematics, University of Wisconsin-Madison, 480 Lincoln Drive, Madison, WI 53706-1388, and **Tom Halverson** ([halverson@macalester.edu](mailto:halverson@macalester.edu)), Department of Mathematics & Computer Science, Macalester College, 1600 Grand Avenue, St. Paul, MN 55105-1899. *Motzkin Algebras and  $sl(2)$* .

We introduce a family of diagram algebras, which we call Motzkin algebras, because their dimensions are Motzkin numbers. These algebras arise naturally as the centralizer algebras of  $sl(2)$  actions. Subalgebras and simple modules of Motzkin algebras exhibit many beautiful combinatorial properties. This talk will survey some of these topics. (Received September 11, 2008)