1163-16-1419   **Susan Montgomery*** (`smontgom@usc.edu`), Department of Mathematics, KAP 104, University of Southern California, 3620 S. Vermont Ave, Los Angeles, CA 90089. *Actions of pointed Hopf algebras on matrix rings.*

Let H be a finite dimensional pointed Hopf algebra with an abelian group G of group-like elements, over a field k which contains all the nth roots of 1, for n $=|G|$. We determine all possible actions of H on matrices $M_m(k)$.

Our techniques use the classification of group gradings of matrices by Bahturin, Sehgal, and Zaicev.

This work is joint with Yuri Bahturin. (Received September 15, 2020)