Julia Pevtsova and Sarah Witherspoon\* (sjw@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77840-3368. Varieties for modules of quantum elementary abelian groups.

We define rank varieties for modules of the first class of noncocommutative Hopf algebras, namely the Borel parts of small quantum groups of type a product of copies of  $A_1$ . These may be considered quantum analogs of an elementary abelian p-group E: Their structure and cohomology are similar to that of E. We prove that the rank varieties are homeomorphic to the support varieties. We use this to prove that the variety of a tensor product is the intersection of the varieties. (Received September 25, 2006)