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Michael Wibmer*, Lehrstuhl für Mathematik (Algebra), RWTH Aachen, 52056 Aachen, Germany. *Finiteness properties of difference algebraic groups*. Preliminary report.

We will present some basic finiteness results for affine difference algebraic groups, i.e., groups defined by algebraic difference equations. Like affine algebraic groups correspond to Hopf algebras which are finitely generated as algebras, affine difference algebraic groups correspond to difference Hopf algebras which are finitely generated as difference algebras. In the language of Hopf algebras, one of our finiteness results may be stated as follows:

Let R be a difference Hopf algebra which is finitely generated as a difference algebra. Then every difference Hopf ideal of R is finitely generated as a difference ideal.

This is a surprising fact as the basis theorem in difference algebra only yields that perfect difference ideals are finitely generated as perfect difference ideals. (Received February 09, 2014)