1100-35-171 **Andrey Minchenko*** (an.minchenko@gmail.com), Weizmann Institute, Department of Mathematics, 7610001 Rehovot, Israel. *Central extensions of simple linear differential algebraic groups.*

The structure theory of linear differential algebraic groups (LDAGs) has proven to be essential for creating algorithms that compute Galois groups of linear differential equations.

We will discuss the structure of central extensions of simple LDAGs. We will see, in particular, that a non-commutative simple LDAG of differential type m has a universal central extension (in the category of LDAGs), whose center is a vector group of differential type m and of rank $\frac{m(m-1)}{2}$. The proof is based on the Cassidy's description of simple LDAGs and on the results of Steinberg and Matsumoto in the algebraic K-theory.

One of the consequences of our main result is that almost simple non-commutative LDAGs, introduced by Cassidy and Singer, are simple. (Received February 07, 2014)