

1106-13-2519      **Andrey Minchenko\*** ([an.minchenko@gmail.com](mailto:an.minchenko@gmail.com)). *Hopf algebras of reductive differential algebraic groups.*

Linear differential algebraic groups (LDAGs) arise as Galois groups of systems of linear partial differential equations. An important problem of the differential Galois theory is to describe such a group algorithmically, starting from the system of equations. The dual object to a LDAG is a differentially finitely generated commutative differential Hopf algebra. One can define reductive LDAGs and study corresponding Hopf algebras using natural filtrations on them. We will see how remarkable properties of such algebras lead to an algorithm that answers the question whether the Galois group is reductive or not. The talk is based on a joint paper with Alexey Ovchinnikov and Michael Singer. (Received September 16, 2014)