

On the extensions of linear groups by abelian varieties over a field of positive characteristic p

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Introduction.

In this paper, we denote by k a fixed algebraically closed field of characteristic $p > 0$. All algebraic varieties, algebraic groups and homomorphisms etc., are those defined over k , unless the contrary is explicitly mentioned. We denote by \mathcal{A} the category of commutative algebraic groups. If we consider the case over a field of the characteristic zero, then such category is an abelian category, but in our case, since the characteristic p is positive, \mathcal{A} is not abelian category. However \mathcal{A} can be mapped into the abelian category \mathcal{Q} of quasi-algebraic groups, \mathcal{Q} being embedded into the abelian category $\mathcal{P} \cong \text{Pro}(\mathcal{Q})$ of proalgebraic groups. Considering the completions of algebraic