
Extensions have been completely determined for elementary group schemes over a field, for example, as was achieved by M. Demazure and P. Gabriel [“Groupes algébriques. Tome I: Géométrie algébrique. Généralités. Groupes commutatifs” (1970; Zbl 0203.234)].


In the article under review we determine completely the group Ext₁ₐ(G, H) for G = ℤ/n, µₙₐ or αₚ and for H = ℧ₐ, ℧ₐ or ℧(λ), where (A, m) is a discrete valuation ring with maximal ideal m and ℧(λ) = Spec(A[X, 1/(λX + 1)]) with group law X → λX ⊗ X + X ⊗ 1 + 1 ⊗ X for λ ∈ m \ 0. Ext₁ₐ(G, H) is also treated when G is as above and H is a finite or quasi-finite flat subgroup A-scheme of ℧ₐ, ℧ₐ or ℧(λ).

Reviewer: T. Sekiguchi; N. Suwa

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