Note: A short guide to p-torsion of abelian varieties in characteristic p

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The example in Section 3.3 about the final type $[0, 0, 1, 1]$ contains a mistake. The covariant Dieudonné module of $I_{4,3}$ is stated incorrectly. To fix it, consider the method of [**Oor01**, Section 9.1]. Consider the k-vector space of dimension 8 generated by $X_1, \ldots, X_4$ and $Y_1, \ldots Y_4$. Consider the operation F defined by: $F(Y_i) = 0$ for $1 \leq i \leq 4$ and

$$F(X_1) = Y_4; \ F(X_2) = Y_3; \ F(X_3) = X_1; \ F(X_4) = Y_2.$$

Consider the operation V defined by:

$$V(X_1) = 0; \ V(X_2) = -Y_4; \ V(X_3) = -Y_2; \ V(X_4) = -Y_1;$$

and

$$V(Y_1) = Y_3; V(Y_2) = 0; \ V(Y_3) = 0; V(Y_4) = 0.$$

Then $D(I_{4,3})$ is generated by X_2, X_3, X_4 modulo the relations:

$$FX_2 + V^2 X_4, F^2 X_3 + V X_2, V X_3 + F X_4.$$

References

[Oor01]   F. Oort, *A stratification of a moduli space of abelian varieties*, Moduli of abelian varieties (Texel Island, 1999), Progr. Math., vol. 195, Birkhäuser, Basel, 2001, pp. 345–416.

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