$$
\begin{array}{cccc}
\phi: & A & \longrightarrow & K\{\tau\} \\
 & \| & & \| \\
 & \mathbb{F}_p[t] & & \mathbb{F}_p\{t\} \\
 & & & \\
 & t & \longmapsto & t + \tau
\end{array}
$$

- A abelian variety
- $A(\overline{K})_{\mathbf{tor}} \leq \Gamma \leq A(K)$
- $\overline{\Gamma} = A$
- $B \leq A$ algebraic subgroup
- $\overline{B(K) \bigcap \Gamma} = B$

- $\phi_{\mathbf{tor}}\left(\overline{K}\right) \leq \Gamma \leq (\mathbb{G}_a \times \mathbb{G}_a)\,(K)$
- $H \leq \mathbb{G}_a^2 \quad \not\Longrightarrow \quad \overline{H(K) \bigcap \Gamma} = H$
- If H were an A-module then yes.

$\phi : \mathbb{F}_p[t] \longrightarrow \mathbb{F}_p\{\tau\}$ is a Drinfeld module

$\forall a \in \mathbb{F}_p[t]$ then $\tau\phi_a = \phi_a\tau$

- $X \subseteq G$ quantifier free definable
- $\implies \exists Y \subseteq G^m$ finite boolean combination of translates of groups
- $X \bigcap \Xi^n = Y \bigcap \Xi^n$
- $X \bigcap \Gamma^n = X \bigcap \Xi^n \bigcap \Gamma^n = Y \bigcap \Xi^n \bigcap \Gamma^n = Y \bigcap \Gamma^n$

- $\Gamma \bigcap X_b$
- $\exists n \exists \{Y_c\} \dots$ as above
- $\Gamma^m \subseteq \bigcup_{i=1}^{d} a_i H_n^m$
- $\exists Y_{c_1}, \dots, Y_{c_n}$ nice sets

$$X \bigcap a_i H_n^m = Y_{c_i} \bigcap a_i H^m$$

- $X \bigcap \Gamma^m = (\bigcup Y_{c_i} \bigcap a_i H_i) \bigcap \Gamma$

- D is an ultrafilter on $\mathbb{N}$
- $L = (K^{\mathbf{sep}})_D$

- G abelian variety$_{/K=K^{\mathbf{sep}}}$
- $1 < [K : K^p] = p^e < \aleph_o$
-

$$G^H = p^\infty G(L) = \bigcap_{n \geq 0} p^n G(L)$$