

$$\begin{array}{c}
 X \triangleleft_{\bullet} \mathbb{F}_q \sqsubseteq_{\text{fin}} \Sigma \triangleleft_{\bullet} \mathbb{F}_q = H \sqsubseteq_{\text{Gal}} K \\
 \mathbb{Q} \sqsubseteq_{\text{fin}} H \sqsubseteq_{\text{Gal}} K
 \end{array}$$

$$K \cap H = \left\{ \begin{array}{ccc} K & & \\ \uparrow & \searrow \sigma & \\ & & \bar{H} \\ \downarrow & \nearrow \iota & \\ H & & \end{array} \right\}$$

$$\mathbb{Q} \subset \mathbb{Q}[e^{2\pi i/m}] \Rightarrow \mathbb{Q}[e^{2\pi i/m}] \cap \mathbb{Q} = \mathbb{Z} \overset{\times}{\cap} \mathbb{Z}m$$

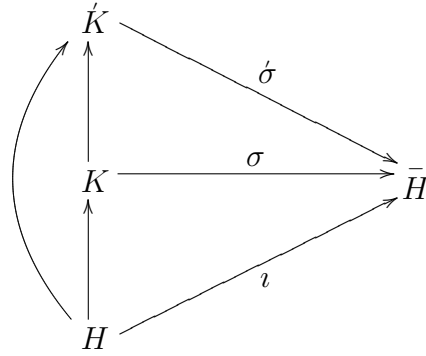
$$p \wedge m = 1 \Rightarrow p + \mathbb{Z}m \in \mathbb{Z} \overset{\times}{\cap} \mathbb{Z}m$$

$$\text{induction } H \subset \dot{H} \subset K \Rightarrow K \cap H \supset K \cap \dot{H}$$

$$\begin{array}{ccc}
 K & & \\ \uparrow & \searrow \sigma & \\ \dot{H} & \xrightarrow{\iota} & \bar{H} \\ \uparrow & \nearrow \iota & \\ H & & \end{array}$$

$${}^s \Lambda_{\dot{H}}^{K \cap \dot{H}} = {}^s \Lambda_H^{K \cap H \supset K \cap \dot{H}}$$

inflation $H \subset K \subset \dot{K} \Rightarrow \dot{K} \supset H \xrightarrow{\text{res}} K \supset H$



$${}^s\Lambda_{\dot{H}}^{\underline{K \supset H} \rightarrow \underline{K \supset H}} = {}^s\Lambda_H^{K \supset H}$$

prim $p \in H$

$$K \supset H \underset{\text{ex}}{\subseteq} K^{\mathbb{Z}_p} \supset H \subset K \supset H$$

$$\text{Frob } \sigma_p \ltimes \underline{K \supset H} \supset \underline{K_p \supset H}$$

$$\mathbb{1} \xrightarrow[\text{rep}]{\varrho} \underline{K \supset H} \times \mathbb{1}$$

$$\sigma_p \ltimes \begin{array}{c} K_p \supset H \\ \searrow \\ \mathbb{1} \end{array}$$

$${}^s\Lambda_H^{K \supset H} = \prod_p \overleftarrow{1 - \sigma_p \ltimes / Z^s p}^{-1}$$