

$$\begin{array}{ccc}
H/[H, H] & \xrightarrow{\sim} & F^*/N_{L/F}L^* \\
\downarrow & & \downarrow N \\
G/[G, G] & \xrightarrow{\sim} & K^*/N_{L/K}L^*
\end{array}
\quad \rightsquigarrow \quad
\begin{array}{ccc}
\widehat{H}^{-2}(H; \mathbb{Z}) & \xrightarrow{\sim} & \widehat{H}^0(H; L^*) \\
\downarrow \text{cores} & & \downarrow \text{cores} \\
\widehat{H}^{-2}(G; \mathbb{Z}) & \xrightarrow{\sim} & \widehat{H}^0(G; L^*)
\end{array}$$