

$$0 \rightarrow \frac{F' H^2}{F^2 H^2} \rightarrow \frac{H^2}{F^2 H^2} \rightarrow \frac{H^2}{F' H^2} \rightarrow 0$$

$$\Rightarrow \frac{H^2}{F^2 H^2} = G = \underbrace{\frac{F' H^2}{F^2 H^2}}_{G/G'} \oplus \underbrace{\frac{H^2}{F' H^2}}_{G'}$$

$$0 \rightarrow F^2 H^2 \rightarrow F' H^2 \rightarrow E_\infty^{1,1} \rightarrow 0$$

$$E_2^{-1,2} \rightarrow E_2^{1,1} \xrightarrow{d_2} E_2^{3,0} \Rightarrow \ker d_2 = E_3^{1,1} \subset E_2^{1,1}$$

$$E_3^{-2,3} \rightarrow E_3^{1,1} \xrightarrow{d_3} E_3^{4,1-3+1} = E_3^{4,0} = 0$$

$$\Rightarrow E_\infty^{1,1} = E_4^{1,1} = E_3^{1,1} \subset E_2^{1,1}$$

$$\Rightarrow E_\infty^{1,1} \hookrightarrow E_2^{1,1} \quad \text{ker } d_2$$

$$\Rightarrow G/G' = \frac{F' H^2}{F^2 H^2} \cong E_\infty^{1,1} \hookrightarrow E_2^{1,1} \Rightarrow G/G' \subset E_2^{1,1}$$

ker \$d_2 = E_3^{1,1}\$

$$0 \rightarrow F' H^2 \rightarrow H^2 \rightarrow E_\infty^{0,2} \rightarrow 0$$

$$E_2^{-2,3} \rightarrow E_2^{0,2} \xrightarrow{d_2} E_2^{2,1}$$

$$\Rightarrow E_3^{0,2} = \ker d_2 \subset E_2^{0,2}$$

$$\Rightarrow E_4^{0,2} = E_\infty^{0,2} \subset E_3^{0,2} = \ker d_2 \subset E_2^{0,2}$$

$$\Rightarrow \frac{H^2}{F' H^2} \cong E_\infty^{0,2} = E_4^{0,2} \subset \ker d_2 \subset E_2^{0,2}$$