

$$0 \rightarrow Z \xrightarrow{\alpha} C \rightarrow B \rightarrow 0$$

$\swarrow$  (dashed arrow)  $\xrightarrow{p}$

$$\begin{array}{ccc}
 Z & \xleftarrow{p} & C \\
 \downarrow \pi & & \downarrow p' \\
 H_q(C) & & C_q
 \end{array}$$

$$\begin{array}{ccc}
 C_q & \xrightarrow{p'} & H_q(C) \\
 \downarrow d & & \downarrow 0 \\
 C_{q-1} & \xrightarrow{p'} & H_{q-1}(C)
 \end{array}$$

$$\begin{array}{ccc}
 C_q \otimes G & \xrightarrow{p' \otimes 1_G} & H_q(C) \otimes G \\
 \downarrow d \otimes 1_G & & \downarrow 0 \otimes 1_G = 0 \\
 C_{q-1} \otimes G & \xrightarrow{p' \otimes 1_G} & H_{q-1}(C) \otimes G
 \end{array}$$

$$F_q : H_q(C \otimes G) \rightarrow H_q(H(C) \otimes G)$$

$$H_q(C; G) \rightarrow H_q(C) \otimes G$$


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