

$$\begin{array}{ccccccc}
0 & \longrightarrow & A^p & \xrightarrow{f^p} & B^p & \xleftarrow{g^p} & C^p \longrightarrow 0 \\
& & \searrow d_A^p & \downarrow & \searrow d_B^p & & \downarrow d_C^p \\
0 & \longrightarrow & A^{p+1} & \xrightarrow{f^{p+1}} & B^{p+1} & \xleftarrow{g^{p+1}} & C^{p+1} \longrightarrow 0 \\
& & \searrow \alpha^{p+1} & \downarrow \alpha^p & \searrow \beta^{p+1} & & \downarrow \beta^p \\
0 & \longrightarrow & A_1^p & \xrightarrow{f_1^p} & B_1^p & \xleftarrow{g_1^p} & C_1^p \longrightarrow 0 \\
& & \searrow d_{A_1}^p & \downarrow & \searrow d_{B_1}^p & & \downarrow d_{C_1}^p \\
0 & \longrightarrow & A_1^{p+1} & \xrightarrow{f_1^{p+1}} & B_1^{p+1} & \xleftarrow{g_1^{p+1}} & C_1^{p+1} \longrightarrow 0 \\
& & \searrow \alpha^{p+1} & \downarrow \alpha^p & \searrow \beta^{p+1} & & \downarrow \beta^p \\
& & A_1^p & \xrightarrow{f_1^p} & B_1^p & \xleftarrow{g_1^p} & C_1^p \longrightarrow 0
\end{array}$$

A commutative diagram illustrating a double complex of chain complexes. The diagram consists of three rows of chain complexes, each starting and ending with 0. The top row is $0 \rightarrow A^p \xrightarrow{f^p} B^p \xleftarrow{g^p} C^p \rightarrow 0$. The middle row is $0 \rightarrow A^{p+1} \xrightarrow{f^{p+1}} B^{p+1} \xleftarrow{g^{p+1}} C^{p+1} \rightarrow 0$. The bottom row is $0 \rightarrow A_1^p \xrightarrow{f_1^p} B_1^p \xleftarrow{g_1^p} C_1^p \rightarrow 0$. The bottom-most row is $0 \rightarrow A_1^{p+1} \xrightarrow{f_1^{p+1}} B_1^{p+1} \xleftarrow{g_1^{p+1}} C_1^{p+1} \rightarrow 0$. Vertical maps connect the rows: $\alpha^p: A^p \rightarrow A_1^p$, $\alpha^{p+1}: A^{p+1} \rightarrow A_1^{p+1}$, $\beta^p: B^p \rightarrow B_1^p$, $\beta^{p+1}: B^{p+1} \rightarrow B_1^{p+1}$, $\gamma^p: C^p \rightarrow C_1^p$, and $\gamma^{p+1}: C^{p+1} \rightarrow C_1^{p+1}$. Diagonal maps connect the top row to the middle row: $d_A^p: A^p \rightarrow A^{p+1}$, $d_B^p: B^p \rightarrow B^{p+1}$, and $d_C^p: C^p \rightarrow C^{p+1}$. Diagonal maps connect the middle row to the bottom row: $d_{A_1}^p: A_1^p \rightarrow A_1^{p+1}$, $d_{B_1}^p: B_1^p \rightarrow B_1^{p+1}$, and $d_{C_1}^p: C_1^p \rightarrow C_1^{p+1}$. Dotted arrows indicate commutativity: $\alpha^{p+1} \circ d_A^p = d_{A_1}^p \circ \alpha^p$, $\beta^{p+1} \circ d_B^p = d_{B_1}^p \circ \beta^p$, $\gamma^{p+1} \circ d_C^p = d_{C_1}^p \circ \gamma^p$, and $\alpha^{p+1} \circ d_{A_1}^p = d_{A_1^{p+1}} \circ \alpha^p$, $\beta^{p+1} \circ d_{B_1}^p = d_{B_1^{p+1}} \circ \beta^p$, $\gamma^{p+1} \circ d_{C_1}^p = d_{C_1^{p+1}} \circ \gamma^p$.