

A homological derivation of Peter's hexagon

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$$\begin{array}{l} A \xrightarrow{\alpha} B \xrightarrow{\beta} C \\ \quad \searrow \gamma \\ A \xrightarrow{\alpha} B \xrightarrow{\bar{\beta}} C / \text{im } \gamma \\ \text{ker } \gamma \xrightarrow{\alpha'} B \xrightarrow{\beta} C \end{array} \left. \vphantom{\begin{array}{l} A \xrightarrow{\alpha} B \xrightarrow{\beta} C \\ A \xrightarrow{\alpha} B \xrightarrow{\bar{\beta}} C / \text{im } \gamma \\ \text{ker } \gamma \xrightarrow{\alpha'} B \xrightarrow{\beta} C \end{array}} \right\} \text{ are complexes.}$$