

$$\begin{array}{ccc}
 A \oplus A & \xrightarrow{(f_1, f_2)} & B \\
 (1, 1) \downarrow & \searrow (\partial_0, \partial_1) & \uparrow p \\
 A & \xleftarrow{\sigma} & \tilde{A}
 \end{array}$$