

$$\begin{array}{ccccccc}
 E & & & & & & \\
 & \swarrow \psi & & \searrow g & & & \\
 & A \times_B N & \xrightarrow{\varphi} & N & \twoheadrightarrow & \operatorname{cok}(\varphi) & \longrightarrow 0 \\
 & \downarrow & & \downarrow & & & \\
 & A & \twoheadrightarrow & B & & & 
 \end{array}$$