

$$\begin{array}{ccccccc}
 1 & \longrightarrow & H & \xrightarrow{\alpha} & G & \xrightarrow{\beta} & K \longrightarrow 1 \\
 & & \text{id} \downarrow & & \theta \downarrow & & \text{id} \downarrow \\
 1 & \longrightarrow & H & \longrightarrow & H \times K & \longrightarrow & K \longrightarrow 1
 \end{array}$$