

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