

$$\begin{array}{ccccccc}
0 & \longrightarrow & K\Pi(K, M_\gamma) & \xrightarrow{i^\Pi} & P\Pi(K, M_\gamma) & \xrightarrow{p^\Pi} & S\Pi(K, M_\gamma) \longrightarrow 0 \\
& & \Phi_\gamma \downarrow & & \downarrow & & \parallel \\
0 & \longrightarrow & M_\gamma & \xrightarrow[f_\gamma]{} & M_{\gamma+1} & \longrightarrow & S\Pi(K, M_\gamma) \longrightarrow 0
\end{array}$$

PBPO