

$$\begin{cases} \gamma \in \mathbb{H}_{\mathcal{A}}^{\infty} \mathbb{K} \\ \gamma \in \mathbb{H}_{\mathcal{A}}^2 \mathbb{K} \end{cases} \Rightarrow P_{\mathcal{A}} \gamma = \overline{\gamma P_{\mathcal{A}}}$$

$$\gamma \in \mathbb{H}_{\mathcal{A}}^2 \mathbb{K} \Rightarrow \gamma \overline{P_{\mathcal{A}} \gamma} = \underbrace{P_{\mathcal{A}} \gamma}_{=\gamma} \overline{\gamma} = \gamma \overline{\gamma} = \overline{\gamma} \overline{\gamma} = \overline{P_{\mathcal{A}} \overline{\gamma}} \overline{\gamma} = \overline{\gamma} \overline{P_{\mathcal{A}} \gamma} = \gamma \overline{\gamma P_{\mathcal{A}}}$$