

$$\text{HilbR } \mathfrak{I} \in \begin{matrix} \mathbb{K} \\ \swarrow \downarrow \searrow \\ 0 \end{matrix} \mathbb{K}$$

$$\bar{\mathfrak{I}} \in \mathbb{K} \begin{matrix} \mathbb{K} \\ \swarrow \downarrow \searrow \\ 0 \end{matrix} \text{coHilb}$$

$$\mathbb{K} \begin{matrix} \mathbb{K} \\ \swarrow \downarrow \searrow \\ 0 \end{matrix} \mathfrak{I}$$

$$\downarrow \text{ ) } \\ \bar{\mathfrak{I}}$$

$$\mathbb{K} \begin{matrix} \mathbb{K} \\ \swarrow \downarrow \searrow \\ 0 \end{matrix} \mathfrak{I} \ni \mathbb{L} \cap \underline{\ker L} \underbrace{\mathbb{L} \underline{\ker L}}^* \in \bar{\mathfrak{I}}$$

$$\mathbb{K} \xleftarrow[\text{lin stet}]{\mathbb{L}} \mathfrak{I} \Rightarrow \ker L \subset \mathfrak{I} \supset \underline{\ker L}$$

$$\begin{array}{ccc} \mathbb{K} = \mathbb{L} \mathfrak{I} & \xleftarrow[\text{ )}]{\tilde{\pi}j = \mathbb{L} | \underline{\ker L}} & \underline{\ker L} \\ \uparrow \tilde{\mathbb{L}} \text{ )} & \text{isomet} & \downarrow \supset \\ \mathfrak{I} = \ker L & \xleftarrow{\pi} & \mathfrak{I} \end{array}$$

$$\Rightarrow \dim_{\mathbb{K}} \underline{\ker L} = 1 \Rightarrow \underline{\ker L} = \underline{\ker L} \mathbb{K}$$

$$\underline{\ker L} \ni \underline{\ker L}$$

$$\underline{\ker L} \times \underline{\ker L} = 1$$

$$L = \underbrace{\underbrace{\perp \ker L}_* \perp \ker L}_* = L \underbrace{\perp \ker L}_*$$

$$\begin{aligned} \mathbb{1} &= \ker L \times \perp \ker L = \ker L \times \perp \ker L \mathbb{K} \ni \underset{\in \ker L}{\mathbb{1}} + \perp \ker L \alpha \\ \Rightarrow \underbrace{\perp \ker L}_* \underbrace{\perp \ker L \times \mathbb{1} + \perp \ker L \alpha}_* &= \underbrace{\perp \ker L}_* \underbrace{\perp \ker L \times \mathbb{1}}_2 (= 0) + \underbrace{\perp \ker L \times \perp \ker L}_2 (= 1) \alpha \\ &= \underbrace{\perp \ker L}_* \alpha = \underset{2}{L} \mathbb{1} (= 0) + L \underbrace{\perp \ker L}_* \alpha = L \mathbb{1} + \perp \ker L \alpha \end{aligned}$$