

$$\mathbb{I}^\sharp = \mathbb{C} \setminus \mathbb{I} \xrightarrow[\text{homeo}]{} \hat{\mathbb{I}} (\mathbb{I}^\sharp)^\sharp$$

$$\mathbb{L} \mapsto \mathbb{L} \hat{\mathbb{I}}$$

$$\hat{\mathbb{I}} \text{ stet surj}$$

$$\mathbb{L}^\sharp = \mathbb{L} \Rightarrow \mathbb{L} \hat{\mathbb{I}} = \mathbb{L} \Rightarrow \mathbb{L} \mathbb{T}^* = \underline{\mathbb{L}} \mathbb{T} = \underline{\mathbb{L}} \underline{\mathbb{T}} = \underline{\mathbb{L}} \mathbb{T}^* \xrightarrow[\text{mult}]{\text{lin}} \mathbb{L} = \underline{\mathbb{L}} \text{ on } \mathbb{I}_0^\sharp \Rightarrow \mathbb{L} = \underline{\mathbb{L}} \Rightarrow \hat{\mathbb{I}} \text{ inj}$$

$$\mathbb{C} \setminus \mathbb{I} \text{ cpt} \Rightarrow \hat{\mathbb{I}} \text{ homeo}$$

$$C^* \text{ alg unit } \mathbb{I} \ni \mathbb{I} \text{ normal}$$

$$\mathbb{I}_\perp^\sharp = (\mathbb{I}^\sharp)_\perp$$

$$\mathbb{I}^\sharp \xrightarrow[\text{unit subalg}]{\text{abg}} \mathbb{I} \Rightarrow \mathbb{I}_\perp^\sharp \subset (\mathbb{I}^\sharp)_\perp$$

$$\nexists \bigvee \lambda \in (\mathbb{I}^\sharp)_\perp \vdash \mathbb{I}_\perp^\sharp \Rightarrow \lambda e - \mathbb{I} \in \mathbb{I}_c$$

$$\bigwedge_{\varepsilon > 0} \bigvee \gamma \in (\mathbb{I}^\sharp)_\perp \cap \mathbb{C} \left\{ \begin{array}{l} \sup_{\zeta \in \gamma} |\zeta| = 1 \\ \bigwedge_{|\zeta - \lambda| > \varepsilon} \zeta = 0 \end{array} \right.$$

$$\Rightarrow \sup_{\zeta \in \gamma} |(\lambda - \zeta)|^{-1} = \sup_{\zeta \in \gamma} \frac{1}{|\lambda - \zeta|} = \sup_{\zeta \in \gamma} \frac{1}{|\lambda - \zeta|} \leq \varepsilon$$

$$\hat{\mathbb{I}} \times \gamma \in (\mathbb{I}^\sharp)_\perp \cap \mathbb{C} \xleftarrow[C^* \text{ iso}]{\wedge} \mathbb{I}^\sharp \Rightarrow \bigvee_{\gamma \in \mathbb{I}^\sharp} \hat{\mathbb{I}} \times \gamma = \hat{\mathbb{1}}$$

$$\Rightarrow \underbrace{\lambda e - \mathbb{1}}_{\mathbb{I}^\sharp} = \underbrace{\lambda e - \mathbb{1}}_{\mathbb{I}^\sharp} \hat{\mathbb{1}} = \hat{\mathbb{1}} \times \underbrace{\lambda I}_{\mathbb{I}^\sharp} \hat{\mathbb{1}} \times \gamma = \hat{\mathbb{1}} \times \underbrace{\lambda I \gamma}_{\mathbb{I}^\sharp}$$

$$\Rightarrow \underbrace{\lambda e - \mathbb{1}}_{\mathbb{I}^\sharp} = \underbrace{\lambda e - \mathbb{1}}_{\mathbb{I}^\sharp} \hat{\mathbb{1}} = \sup_{\zeta \in \gamma} |\hat{\mathbb{1}} \times \underbrace{\lambda I \gamma}_{\mathbb{I}^\sharp}| = \sup_{\zeta \in \gamma} |\lambda I \gamma| \leq \varepsilon$$

$$\Rightarrow 1 = \sup_{\zeta \in \gamma} |\hat{\mathbb{1}} \times \gamma| = \sup_{\zeta \in \gamma} |\hat{\mathbb{1}}| = \sup_{\zeta \in \gamma} |\lambda I \gamma| = \sup_{\zeta \in \gamma} |\lambda| \sup_{\zeta \in \gamma} |I \gamma| \leq \sup_{\zeta \in \gamma} |\lambda| \varepsilon \rightsquigarrow 0$$

$$\text{normal } \mathbb{I} \in \mathbb{I} \xrightarrow[\text{unit } *_{\text{subalg}}]{\text{abg}} \mathbb{I} \in \mathbb{C}^\omega \text{ unit } C^* \text{ alg} \Rightarrow \mathbb{I}_\perp^\sharp = \mathbb{I}_\perp^\sharp$$