

$$\text{top VR } \mathbb{1} \in \mathrel{\mathcal{N}}_0 \mathbb{K}$$

$$\mathbb{1} \supset \mathbb{1} \Rightarrow \mathbb{1} \xleftarrow[\text{stet}]{j} \mathbb{1} \in \mathrel{\mathcal{N}}_0 \mathbb{K}$$

$$\mathcal{T} \cap \mathbb{1} = \frac{U \cap \mathbb{1}}{U \in \mathcal{T}} \text{ Rel-Top} \Rightarrow j \text{ stet}$$

$$\mathcal{U} \text{ stand 0-Umgbasis von } \mathcal{T} \Rightarrow \mathcal{U} \cap \mathbb{1} = \frac{U \cap \mathbb{1}}{U \in \mathcal{U}} \text{ stand 0-Umgbasis von } \mathcal{T} \cap \mathbb{1} \Rightarrow \mathbb{1} \in \mathrel{\mathcal{N}}_0 \mathbb{K} \text{ top VR}$$

$$\mathbb{1} \supset \mathbb{1} \Rightarrow \mathbb{1} \supset \mathrel{\mathcal{N}} \mathbb{1}$$

$$\mathbb{1} \supset \mathbb{1} + \mathbb{1} = + \underbrace{\mathbb{1} \times \mathbb{1}} \Rightarrow \mathrel{\mathcal{N}} \mathbb{1} \supset \overline{+ \underbrace{\mathbb{1} \times \mathbb{1}}} \mathrel{\mathcal{N}}_{+ \text{ stet}} + \overline{\mathbb{1} \times \mathbb{1}} = + \underbrace{\mathrel{\mathcal{N}} \mathbb{1} \times \mathrel{\mathcal{N}} \mathbb{1}} = \mathrel{\mathcal{N}} \mathbb{1} + \mathrel{\mathcal{N}} \mathbb{1}$$

$$\mathbb{1} \supset \mathbb{1} \cdot \mathbb{K} = \cdot \underbrace{\mathbb{1} \times \mathbb{K}} \Rightarrow \mathrel{\mathcal{N}} \mathbb{1} \supset \overline{\cdot \underbrace{\mathbb{1} \times \mathbb{K}}} \mathrel{\mathcal{N}}_{\cdot \text{ stet}} \cdot \overline{\mathbb{1} \times \mathbb{K}} = \cdot \underbrace{\mathrel{\mathcal{N}} \mathbb{1} \times \mathbb{K}} = \mathrel{\mathcal{N}} \mathbb{1} \cdot \mathbb{K}$$

$$\text{treu } \mathbb{1} \sqsupset \mathbb{1} \text{ voll} \Rightarrow \mathbb{1} \sqsupset \mathbb{1}$$

$$\nexists \mathbb{1} \sqsubset \mathbb{1} \nsubseteq \mathbb{1} \Rightarrow \bigvee \mathbb{1} \in \underbrace{\mathbb{1} \sqsubset \mathbb{1}} \cap \overline{\mathbb{1}} \Rightarrow \bigwedge_U \underbrace{\mathbb{1} + U} \cap \mathbb{1} \neq \emptyset$$

$$\overset{\text{Ax}}{\underset{\text{Choice}}{\Rightarrow}} \prod_U^{\mathcal{U}} \underbrace{\mathbb{1} + U} \cap \mathbb{1} \neq \emptyset: \quad \bigvee_{\text{Abb}} \mathcal{U} \ni U \mapsto \mathbb{1}^U \in \mathbb{1} \cap \underbrace{\mathbb{1} + U}$$

$$\left(\mathbb{1}^U\right)_U^U \overset{\sim}{\underset{\text{Cauchy net}}{}}$$

$$\bigwedge_U^{\mathcal{U}} \bigvee_V^{\mathcal{U}} V + V \subset U \Rightarrow \bigwedge_{W:\dot{W} \subset V}^{\mathcal{U}} \mathbb{1}^W - \mathbb{1}^{\dot{W}} = \underbrace{\mathbb{1}^W - \mathbb{1}} - \underbrace{\mathbb{1}^{\dot{W}} - \mathbb{1}} \in W - \dot{W} \subset V - V \subset U$$

$$\Rightarrow \mathbb{1}^U \overset{\sim}{\rhd} \mathbb{1} \in \mathbb{1} \text{ voll} \Rightarrow \mathbb{1} \neq \mathbb{1} \in \mathbb{1} \sqsubset \mathbb{1} \overset{\text{treu}}{\Rightarrow} \bigvee_U^{\mathcal{U}} \mathbb{1} - \mathbb{1} \notin U \Rightarrow \bigvee_V^{\mathcal{U}} V + V \subset U \Rightarrow \bigvee_W^{\mathcal{U}} \bigwedge_{\dot{W} \subset W}^{\mathcal{U}} \mathbb{1}^{\dot{W}} - \mathbb{1} \in V$$

$$F2 \Rightarrow \bigvee_{\dot{W}}^{\mathcal{U}} \dot{W} \subset W \cap V \Rightarrow \mathbb{1} - \mathbb{1} = \underbrace{\mathbb{1} - \mathbb{1}^{\dot{W}}} + \underbrace{\mathbb{1}^{\dot{W}} - \mathbb{1}} \in V + \dot{W} \subset V + V \subset U \nexists$$