

$$\mathcal{B} \subset \mathcal{P}(\mathbb{1}) \text{ tvs 0-filterbase} \iff \bigwedge_{U \in \mathcal{B}}$$

$$\text{F1 } 0 \in U \text{ F2 } \bigwedge_{V \in \mathcal{B}} \bigvee_{W \in \mathcal{B}} W \subset U \cap V$$

$$\text{M0 } \bigwedge_{\mathbb{1} \in \mathbb{1}} \bigvee_{\varepsilon > 0} \mathbb{1}_\varepsilon \in U \text{ radial}$$

$$\text{A1 } \bigvee_{V \in \mathcal{B}} V + V \subset U$$

$$\text{M1 } \bigwedge_{\lambda \in K \smallfrown 0} \bigvee_{V \in \mathcal{B}} U\lambda \supset V$$

$$\text{M2 } \bigvee_{V \in \mathcal{B}} \bigwedge_{\zeta \overline{\zeta} \leqslant 1} V\zeta \subset U$$

$$\mathbb{U} \subset \mathbb{1} \Leftrightarrow \bigwedge_{\mathbb{1} \in \mathbb{U}} \bigvee_{U \in \mathcal{B}} \mathbb{1} + U \subset \mathbb{U} \text{ Top on } \mathbb{1}$$

$$\mathbb{U}_\iota \subset \mathbb{1} \Rightarrow \bigcup_\iota \mathbb{U}_\iota \subset \mathbb{1}$$

$$\mathbb{1} \in \bigcup_\iota \mathbb{U}_\iota \Rightarrow \bigwedge_{\iota_0} \mathbb{1} \in \mathbb{U}_{\iota_0} \Rightarrow \bigvee_{U \in \mathcal{B}} \mathbb{1} + U \subset \mathbb{U}_{\iota_0} \subset \bigcup_\iota \mathbb{U}_\iota$$

$$\mathbb{U}_i \subset \mathbb{1} \Rightarrow \bigcap_i \mathbb{U}_i \subset \mathbb{1}$$

$$\mathbb{1} \in \bigcap_{i \in n} \mathbb{U}_i \Rightarrow \bigwedge_{i \in n} \mathbb{1} \in \mathbb{U}_i \Rightarrow \bigvee_{U_i \in \mathcal{B}} \mathbb{1} + U_i \subset \mathbb{U}_i \stackrel{\text{F2}}{\Rightarrow} \bigvee_{V \in \mathcal{B}} V \subset \bigcap_{i \in n} U_i$$

$$\Rightarrow \mathbb{1} + V \subset \bigcap_i \mathbb{1} + U_i \subset \bigcap_i \mathbb{U}_i$$

$$\Rightarrow \mathcal{T} \text{ Top on } \mathbb{1} \text{ transl-inv}$$

$$\bigwedge_{U \in \mathcal{B}} \triangle U = \frac{\mathbb{1} \in \mathbb{1}}{\bigvee_{V \in \mathcal{B}} \mathbb{1} + V \subset U} \subset \mathbb{1}$$

$$\underline{U} \subset U$$

$$\begin{aligned} 1 \in \underline{U} &\Rightarrow \bigvee_{V \in \mathcal{B}} 1 + V \subset U \Rightarrow \bigvee_{W \in \mathcal{B}} W + W \subset V \Rightarrow (1 + W) + W \subset 1 + V \subset U \Rightarrow 1 + W \subset \underline{U} \Rightarrow \underline{U} \subset 1 \\ 1 &= 1 + 0 \in 1 + V \subset U \Rightarrow \underline{U} \subset U \\ 1 &\in 1 + \underline{U} \subset 1 \end{aligned}$$

$$1 \in \bigtriangledown_0 \mathbb{K} \text{ top VR}$$

$$1 \boxtimes 1 \xrightarrow[1:\mathfrak{f} \text{ stet}]{+} 1$$

$$\begin{aligned} 1 + \mathfrak{f} \in \mathfrak{U} \subset 1 &\Rightarrow \bigvee_{U \in \mathcal{B}} \underline{1 + \mathfrak{f}} + U \subset \mathfrak{U} \stackrel{\text{A1}}{\Rightarrow} \bigvee_{V \in \mathcal{B}} V + V \subset U \\ \Rightarrow \mathfrak{f} \in \mathfrak{f} + V \subset 1 \wedge \underline{1 + V} + \underline{\mathfrak{f} + V} &\subset \underline{1 + V} + \underline{\mathfrak{f} + V} = \underline{1 + \mathfrak{f}} + V + V \subset \underline{1 + \mathfrak{f}} + U \subset \mathfrak{U} \Rightarrow \end{aligned}$$

$$1 \boxtimes \mathbb{K} \xrightarrow[1:\alpha \text{ stet}]{\cdot} \mathbb{K}$$

$$\begin{aligned} 1\alpha \in \mathfrak{U} \subset 1 &\Rightarrow \bigwedge_{U \in \mathcal{B}} 1\alpha + U \subset \mathfrak{U} \stackrel{\text{A1}}{\Rightarrow} \bigvee_{V \in \mathcal{B}} V + V \subset U \stackrel{\text{M2}}{\Rightarrow} \bigvee_{W \in \mathcal{B}} \mathbb{K} \underset{<}{W} \subset V \stackrel{\text{M0}}{\Rightarrow} \bigvee_{\varepsilon > 0} 1\varepsilon \in W \\ \stackrel{\text{M1}}{\Rightarrow} \bigvee_{Y \in \mathcal{B}} Y \subset \frac{W}{\overline{\alpha'} + \varepsilon} 1 &\in 1 + Y \subset 1 \\ \alpha \in \mathbb{K}_{<\varepsilon}^\alpha &\subset \mathbb{K} \end{aligned}$$

$$\begin{aligned} 1\mathbb{K}_\varepsilon = 1\mathbb{K}_{<\varepsilon} \subset \mathbb{K} W \subset V \supset \mathbb{K} W \supset W \frac{\mathbb{K}_{<\varepsilon}^\alpha}{\overline{\alpha'} + \varepsilon} \supset \Downarrow l_{<\varepsilon}^\alpha \\ \Rightarrow \overline{1 + \underline{Y}} \mathbb{K}_{<\varepsilon}^\alpha \subset \overline{1 + Y} \mathbb{K}_{<\varepsilon}^\alpha \subset 1\alpha + 1\mathbb{K}_{<\varepsilon} + 1\mathbb{K}_{<\varepsilon}^\alpha \subset 1\alpha + V + V \subset 1\alpha + U \subset \mathfrak{U} \end{aligned}$$