

$${}_n \mathcal{H} \rightsquigarrow h \Rightarrow {}_{j_n} \mathcal{H} \rightsquigarrow h$$

$$\bigwedge_{\varepsilon > 0} \bigvee_{m \in \mathbb{N}} \bigwedge_{n \geq m} {}_n \mathcal{H} \bullet h \leq \varepsilon \Rightarrow \bigvee_{j_n \geq n} {}_{j_n} \mathcal{H} \bullet h \leq \varepsilon$$

$$\left\{ \begin{array}{l} {}_n \mathcal{H} \rightsquigarrow \\ \text{Cau} \\ {}_{j_n} \mathcal{H} \rightsquigarrow h \end{array} \right\} \Rightarrow {}_n \mathcal{H} \rightsquigarrow h$$

$$\bigwedge_{\varepsilon > 0} \bigvee_{m \in \mathbb{N}} \bigwedge_{i, j \geq m} {}_i \mathcal{H} \bullet {}_j \mathcal{H} \leq \frac{\varepsilon}{2}$$

$$\bigvee_{k \in \mathbb{N}} \bigwedge_{n \geq k} {}_k \mathcal{H} \bullet h \leq \frac{\varepsilon}{2}$$

$$\Rightarrow \bigwedge_{n \geq m \vee k} {}_n \mathcal{H} \bullet h \leq {}_n \mathcal{H} \bullet {}_j \mathcal{H} + {}_j \mathcal{H} \bullet h \leq \frac{\varepsilon}{2} + \frac{\varepsilon}{2} = \varepsilon$$

$$\text{LIM } {}_n \mathcal{H} = \frac{h \in \bar{\mathcal{H}}}{\bigvee_{j_n} {}_j \mathcal{H} \rightsquigarrow h} = {}_{\infty} \mathcal{H} = \frac{h \in \bar{\mathcal{H}}}{\bigwedge_{\varepsilon > 0} \mathcal{H}^{-1}(\bar{\mathcal{H}}_{\varepsilon}^h) \text{ fin}}$$

cluster points subsequential limits

$$\bar{\mathcal{H}} \perp {}_{\infty} \mathcal{H} = \frac{h \in \bar{\mathcal{H}}}{\bigvee_{\varepsilon > 0} \mathcal{H}^{-1}(\bar{\mathcal{H}}_{\varepsilon}^h) \text{ fin}}$$

$${}_n\mathcal{H} \rightsquigarrow {}_\infty\mathcal{H} \Rightarrow \text{LIM } {}_n\mathcal{H} = \{ {}_\infty\mathcal{H} \} = \{ \lim {}_n\mathcal{H} \}$$

$${}_\infty\mathcal{H}$$

$${}_\infty\mathcal{H} \subset \mathfrak{H}$$

$$o \in \mathfrak{H} \text{L} \varphi_\infty \Rightarrow \bigvee_{\varepsilon > 0} \mathcal{H}^{-1}(\mathfrak{H}_\varepsilon^h) \text{ fin}$$

$$h \in \mathfrak{H}_\varepsilon^h \Rightarrow \varepsilon - h \bullet o > 0$$

$$\mathfrak{H}_{\varepsilon - h \bullet o}^h \subset \mathfrak{H}_\varepsilon^o$$

$$\text{fin } \mathcal{H}^{-1}(\mathfrak{H}_\varepsilon^o) \supset \mathcal{H}^{-1}(\mathfrak{H}_{\varepsilon - h \bullet o}^h) \text{ fin}$$

$$\Rightarrow h \in \mathfrak{H} \text{L } {}_\infty\mathcal{H} \Rightarrow \mathfrak{H} \text{L } {}_\infty\mathcal{H} \subset \mathfrak{H}$$