$$\mathcal{Q} = \frac{\bigcup_{k \in \mathbb{R}^d_{<1/n}} k}{1 \leqslant n \colon \quad k \in \mathbb{Q}^d} \text{ abz Basis}$$

$$\mathbb{R}^d \supset U \ni h \Longrightarrow \bigvee_{\varepsilon}^{>0} U \supset \bigcup_{k \in \mathbb{R}^d_{<\varepsilon}} h \Longrightarrow \bigvee_{n}^{\geqslant 1} \frac{2}{n} \leqslant \varepsilon$$

$$\bigwedge_{i}^{d} \bigvee_{k^i}^{\mathbb{Q}} \overline{k^i - h^i} < \frac{1}{n}$$

$$h \in \bigcup_{k \in \mathbb{R}^d_{<1/n}} k \subset \bigcup_{h \in \mathbb{R}^d_{<1/n}} h + \mathbb{R}^d_{<1/n} = \bigcup_{h \in \mathbb{R}^d_{<2/n}} h \subset \bigcup_{h \in \mathbb{R}^d_{<\varepsilon}} h \subset U$$