

$$\mathbb{1} : \mathfrak{K} \in \overset{2}{\mathbb{N}}_0 \mathbb{K} \text{ HilbR}$$

$$\text{free } S$$

$$\mathbb{K} \overset{2}{\mathbb{N}}_m \bar{S}$$



$$\mathbb{1}$$

$$\mathbb{K} \overset{2}{\mathbb{N}}_m \bar{S} \ni \overbrace{S^s}^s \mathbb{1} \neq \sum_{s \in S} s_s \mathbb{1}$$

$$(\mathbb{1}_s)^s \bar{S} \curvearrowright s \bar{\mathbb{1}}_s \sum_{s \in S}$$

$$\cdot \mathbb{1} \in \mathbb{K} \overset{2}{\mathbb{N}}_m \bar{S} \Rightarrow \sum_{s \in S} s \rightarrow \mathbb{1} \mathbb{1} n$$

$$\text{fin } M \subset N \subset S \Rightarrow \overbrace{\sum_{s \in N} s_s \mathbb{1} - \sum_{s \in M} s_s \mathbb{1}}^2 = \overbrace{\sum_{s \in N \setminus M} s_s \mathbb{1}}^2 = \sum_{s \in N \setminus M} \overbrace{s_s \mathbb{1}}^2 \rightsquigarrow 0$$

$$\Rightarrow \mathbb{1} \ni \sum_{s \in M} s_t \mathbb{1} \overset{i}{\text{Cau}} \Rightarrow \bigvee \mathbb{1} \ni \sum_{s \in S} s \rightarrow \mathbb{1} \overset{j}{M \subset S} \sum_{s \in M} s_s \mathbb{1}$$

$$s \mathbb{1} = s \mathfrak{K} \overbrace{\sum_{t \in S} t_t \mathbb{1}}$$

$$\mathbb{K} \xleftarrow[s \mathfrak{K}]{\text{lin stet}} \mathbb{1} \Rightarrow s \mathfrak{K} \overbrace{\sum_{t \in S} t_t \mathbb{1}} \underset{N \subset S}{\rightsquigarrow} s \mathfrak{K} \overbrace{\sum_{t \in N} t_t \mathbb{1}} = \sum_{t \in N} \underbrace{s \mathfrak{K} t}_s \mathbb{1} = s \mathbb{1}$$

$$s \mathbb{1} = \underbrace{\mathbb{1}_t \bar{S}}_t \sum_{t \in S} \mathfrak{K} s$$