

Definition 7.59. *[OFW]* Let I be an infinite family of indices and let $a_i : I \rightarrow [0, \infty]$ be a generalized sequence, we define the sum $\sum_{i \in I} a_i$ as

$$\sum_{i \in I} a_i = \sup \left\{ \sum_{i \in K} a_i : K \in \mathcal{P}_\uparrow(I) \right\}$$

where $\mathcal{P}_\uparrow(I)$ is the set of finite subsets $K \subseteq I$.