§37. Inner products for protoscales

Given any protoscale E and given any $B \in [1, o(\ell(E))]$ and $G \subset Q$ and $u \in Q$ we define

$$G(E(B) \geq u) = \Big\{ j \in G(\ell(E)) : \ \mathrm{inpo}(j, E(B, \widetilde{B}, \hat{B}, \hat{C})) \geq u \ \text{ for all } (\widetilde{B}, \hat{B}, \hat{C}) \in \mathrm{supt}(E, B) \Big\}$$

and

$$G(E((B)) \geq u) = \Big\{ j \in G(\ell(E)) : \ \mathrm{inpo}(j, E((B, \widetilde{B}, \hat{B}, \hat{C}))) \geq u \ \text{ for all } (\widetilde{B}, \hat{B}, \hat{C}) \in \mathrm{supt}((E, B)) \Big\}$$

and for any $P \in \{>, =\}$ we define

$$G(E(B)Pu) = \Big\{ j \in G(E(B) \geq u) : \ \mathrm{inpo}(j, E(B, o(\ell(E)), o(\ell(E)), 0))Pu \Big\}$$

and

$$G(E((B))Pu) = \Big\{ j \in G(E((B)) \geq u) : \ \mathrm{inpo}(j, E((B, o(\ell(E)), o(\ell(E)), 0)))Pu \Big\} .$$