

Proposition 15.110. Let $(\mathfrak{A}; \mathfrak{J})$ be a co-separable filtrator with join-closed core. An $A \in \mathfrak{J}$ is connected regarding a functor μ iff

$$\forall X, Y \in \mathfrak{J} \setminus \{0^{\mathfrak{J}}\}; (X \sqcup^{\mathfrak{J}} Y = A \Rightarrow X [\mu] Y).$$

Proof.

\Rightarrow . Obvious.

\Leftarrow . Follows from co-separability. □

Obvious 15.111. For \mathfrak{A} being a set of filters over a boolean lattice, an element $a \in \mathfrak{A}$ is connected regarding a pointfree functor μ iff it is connected regarding the functor $\mu \sqcap (a \times^{\text{FCD}} a)$.