PROOF. By theorem 402. □

PROPOSITION 475. The poset of filters on a set is separable.

PROOF. By obvious 403. □

PROPOSITION 476. The poset of filters on a set is atomistic.

PROOF. By theorem 404. □

PROPOSITION 477. The poset of filters on a set is atomically separable.

PROOF. By corollary 405. □

PROPOSITION 478. The filtrator on a powerset is central.

PROOF. By theorem 406. □

PROPOSITION 479. a is an atom of $\mathfrak{P}$ iff $a \in \mathfrak{P}$ and a is an atom of $\mathfrak{F}$ for filters on a set.

PROOF. By proposition 407. □

PROPOSITION 480. $a \in \mathfrak{F}$ is an atom of $\mathfrak{F}$ iff $\operatorname{up} a = \partial a$ for filters on a set.

PROOF. By proposition 408. □

THEOREM 481. Let a be a filter on a set. Then the following are equivalent:

1°. a is prime.
2°. For every $A \in \mathfrak{Z}$ exactly one of $\{A, \overline{A}\}$ is in a.
3°. a is an atom of $\mathfrak{F}$.

PROOF. By theorem 410. □

PROPOSITION 482. The following conditions are equivalent for every filter $\mathcal{F}$ on a set:

1°. $\mathcal{F} \in \mathfrak{P}$;
2°. $\forall S \in \mathscr{P}\mathfrak{F} : \left(\mathcal{F} \sqcap^{\mathfrak{F}} \bigsqcup^{\mathfrak{F}} S \neq \bot \Rightarrow \exists \mathcal{K} \in S : \mathcal{F} \sqcap^{\mathfrak{F}} \mathcal{K} \neq \bot\right)$;
3°. $\forall S \in \mathscr{P}\mathfrak{P} : \left(\mathcal{F} \sqcap^{\mathfrak{F}} \bigsqcup^{\mathfrak{F}} S \neq \bot \Rightarrow \exists K \in S : \mathcal{F} \sqcap^{\mathfrak{F}} K \neq \bot\right)$.

PROOF. By proposition 411. □

PROPOSITION 483. For every filter $\mathcal{F}$ on a set

$$\mathcal{F} \in \mathfrak{P} \Leftrightarrow \forall S \in \mathscr{P}\mathfrak{P} : \left(\bigsqcup^{\mathfrak{P}} S \in \partial\mathcal{F} \Rightarrow S \cap \partial\mathcal{F} \neq \emptyset\right).$$

PROOF. By theorem 412. □

THEOREM 484. For any $S \in \mathscr{P}\mathfrak{F}$, where $\mathfrak{F}$ are filters on a set, the condition $\exists \mathcal{F} \in \mathfrak{F} : S = \star\mathcal{F}$ is equivalent to conjunction of the following items:

1°. S is a free star on $\mathfrak{F}$;
2°. S is filter closed.

PROOF. By theorem 413. □

PROPOSITION 485. Let $\mathfrak{F}$ be filters on a set. Let $\mathcal{A} \in \mathfrak{F}$. Then for each $\mathcal{X} \in \mathfrak{F}$

$$\mathcal{X} \in Z(D\mathcal{A}) \Leftrightarrow \exists X \in \mathfrak{P} : \mathcal{X} = X \sqcap^{\mathfrak{F}} \mathcal{A}.$$

PROOF. By theorem 414. □