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Decompositions for relatively normal lattices. (English) Zbl 0799.06019

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A lower-bounded distributive lattice is called relatively normal if in its set of prime ideals P ordered by set-inclusion every principal upper set is a chain. The most general conditions are obtained under which a relatively normal lattice may be represented as a union of its special ideals (Theorem B). It is also shown that if for a lower-bounded distributive lattice L its quotient lattice L/θ relative to the Glivenko congruence θ satisfies the descending chain condition, then L is relatively normal iff L is isomorphic to the lattice of all principal convex ℓ -subgroups of an abelian ℓ -group (Theorem D).

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MSC:

06D05 Structure and representation theory of distributive lattices
06F20 Ordered abelian groups, Riesz groups, ordered linear spaces

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root-system; file configuration; distributive lattice; prime ideals; relatively normal lattice; quotient lattice; Glivenko congruence; descending chain condition; principal convex ℓ -subgroups; abelian ℓ -group

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