

THE LOEWY SERIES OF AN FCP (DISTRIBUTIVE) RING EXTENSION

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ABSTRACT. If $R \subseteq S$ is an extension of commutative rings, we consider the lattice $([R, S], \subseteq)$ of all the R -subalgebras of S . We assume that the poset $[R, S]$ is both Artinian and Noetherian; that is, $R \subseteq S$ is an FCP extension. The Loewy series of such lattices are studied. Most of main results are gotten in case these posets are distributive, which occurs for integrally closed extensions. In general, the situation is much more complicated. We give a discussion for finite field extensions.

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