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ON THE SUBSEMIGROUP GENERATED BY ORDERED IDEMPOTENTS OF A REGULAR SEMIGROUP

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Abstract

An element e of an ordered semigroup S is called an ordered idempotent if $e \leq e^2$. Here we characterize the subsemigroup $< E_{\leq}(S) >$ generated by the set of all ordered idempotents of a regular ordered semigroup S. If S is a regular ordered semigroup then $< E_{\leq}(S) >$ is also regular. If S is a regular ordered semigroup generated by its ordered idempotents then every ideal of S is generated as a subsemigroup by ordered idempotents.

Keywords: ordered regular, ordered inverse, ordered idempotent, downward closed, completely regular.

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