

## NEW KINDS OF PREFILTERS IN EQ-ALGEBRAS

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### Abstract

In this paper, the notions of  $n$ -fold positive implicative prefilter and  $n$ -fold implicative prefilter in EQ-algebras are introduced and several properties, characterizations and equivalent conditions are provided. It is proved that the quotient EQ-algebra induced by an  $n$ -fold positive implicative prefilter is  $n$ -idempotent. Also, it is proved that in an  $n$ -idempotent EQ-algebra, any filter is an  $n$ -fold positive implicative filter. In the sequel, we investigate the relationships between these two types of prefilters. Finally, some characterizations of  $n$ -fold implicative prefilters in bounded EQ-algebras are given.

**Keywords:** ( $n$ -idempotent) EQ-algebra,  $n$ -fold positive implicative prefilter,  $n$ -fold implicative prefilter.

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