

## On uniformly 1-absorbing primary ideals

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**Abstract.** In this article, we introduce the concept of uniformly 1-absorbing primary ideal which is a generalization of uniformly primary ideal. Let  $R$  be a commutative ring with a unity and  $P$  be a proper ideal of  $R$ .  $P$  is said to be a uniformly 1-absorbing primary ideal if there exists  $N \in \mathbb{N}$  and whenever  $xyz \in P$  for some nonunits  $x, y, z \in R$ , then either  $xy \in P$  or  $z^N \in P$ . The smallest aforementioned  $N \in \mathbb{N}$  is called the order of  $P$  and denoted by  $\text{ord}_R(P) = N$ . In addition to giving many properties of uniformly 1-absorbing primary ideals, we investigate the relationship between uniformly 1-absorbing primary ideals and other classical ideals such as uniformly primary ideals and 1-absorbing primary ideals.

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