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Title: On prime radical of submodules

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Let R be a commutative ring with identity. A proper submodule N of an R-module M is called P-prime [resp. P-primary], if for each  $r \in R$  and  $a \in M$ ,  $ra \in N$  implies that  $a \in N$  or  $r \in P = (N : M)$  [resp.  $r \in P = \sqrt{(N : M)}$ ]. The intersection of all prime submodules of M containing a submodule B denoted by rad(B) is called the radical of B. We will try to formulate and find the forms of elements of rad(B), and we study when the radicals of primary submodules are prime.

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