

1117-13-127

Craig Huneke and **Ilya Smirnov*** (ismirnov@umich.edu), Department of Mathematics,
University of Michigan, 530 Church Street, 2074 East Hall, Ann Arbor, MI 48109. *Prime filtrations
of the powers of an ideal.*

Let I be an ideal in a noetherian ring R . It is known for a long time that the set $\cup \text{Ass}R/I^n$, i.e. the set of all prime ideals that appear as an associated prime of R/I^n for some n , is finite.

Generalizing this classical result I will show that it is possible to choose prime filtrations of all powers R/I^n such that the set of prime ideals that appear in those filtrations is still finite. This result was motivated by the following corollary: in an excellent ring R the intersection of the Cohen-Macaulay loci of all R/I^n is nonempty. (Received January 08, 2016)