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Julian David Chan* (julian@math.utah.edu), 477 H street, Salt Lake City, UT 84103. *Torsion of Cohomology Modules.*

Huneke asked if local cohomology modules have only finitely many associated primes. If R is a regular ring containing a field of prime characteristic, then Huneke and Sharp showed the set of associated primes is finite. Lyubeznik showed that the set of associated primes is again finite if R is a regular local ring of characteristic zero. Singh and Katzman have given examples of cohomology modules each with an infinite set of associated primes. Equivalently, Singh has shown that for each prime integer p , $\mathbb{Z}/p\mathbb{Z}$ embeds into the cohomology module. We show that each finitely generated abelian group embeds into a graded component of the cohomology module. (Received September 16, 2010)