

**Meeting:** 998, Houston, Texas, SS 21A, Special Session on Homological Algebra of Commutative Rings

998-13-337            **Liana M Sega\*** (lsega@math.msu.edu) and **Christel Rotthaus** (rotthaus@math.msu.edu).  
*Some properties of graded local cohomology modules.* Preliminary report.

We consider a finitely generated graded module  $M$  over a standard graded Noetherian ring  $R$ , and we study the local cohomology modules of  $M$  with respect to the irrelevant ideal of  $R$ . We prove that the support of the top nonvanishing local cohomology is closed, and we obtain several other results when the module  $M$  is Cohen-Macaulay. When the component of degree zero of  $R$  is a local ring and the  $R$ -module  $M$  is Cohen-Macaulay, we explain the signification of the fact that all local cohomology modules, with the exception of one, vanish. (Received March 01, 2004)