

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

998-18-306      **James M Turner\*** (jturner@calvin.edu), Department of Mathematics, Calvin College, Grand Rapids, MI 49546. *Cartan-Eilenberg Homology, André-Quillen Homology, and Cartan Resolutions.*

A theorem of L. Avramov and S. Iyengar computes the Cartan-Eilenberg homology of a Noetherian supplemented algebra when the homology is finitely-generated as an algebra. Their approach, in the rational case, reduced the calculation to that of André-Quillen homology for such algebras. Our aim is to extend their argument to the primary case and show their result holds when the Cartan-Eilenberg homology is finitely-generated as a divided power algebra. The key tool we use is a generalization of Tate resolutions to the notion of Cartan resolutions, based upon the work of H. Cartan, A.K. Bousfield, and W. Dwyer. This gives an approach to computing both Cartan-Eilenberg homology and André-Quillen homology. (Received March 01, 2004)