1018-13-174   **Jinjia Li*** (`jinjiali@math.uiuc.edu`), Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801. *Upper bound on asymptotic length of homology and Intersection Multiplicity.*

Let $F_\bullet$ be a free complex with finite length homology over a local ring A in positive characteristics. For any A module N, the length of $Tor_j^A(H_i(F^n(F_\bullet)), N)$ is bounded by a function depends on the dimension of N when the codimension of N is less than or equal to two. This fails, however, when codimension of N is three. Apply this, we negatively answers a question of Dutta regarding a sufficient condition to a special case of the nonnegativity conjecture of intersection multiplicity. (Received March 05, 2006)