

1124-18-298

**Hannah Altmann\*** (haltmann@morris.umn.edu), **Eloisa Grifo**, **Jonathan Montano**,  
**William Sanders** and **Thanh Vu**. *Lower Bounds on Levels of Perfect Complexes*. Preliminary  
report.

Let  $R$  be an associative ring. An  $R$ -complex  $F$  is *perfect* if it is quasiisomorphic to a bounded complex of finitely generated projective modules. A useful invariant associated to every perfect complex is its level. We can think of the level of  $F$  as the number of steps it takes to build  $F$  out of  $R$ . We will discuss finding bounds on the level of a perfect complex. In particular, we will show that the length of the largest gap in the homology of a complex  $F$  gives a lower bound for the level of  $F$ . (Received September 12, 2016)