

1068-13-271

**Jinjia Li\***, Department of Mathematics, University of Louisville, Louisville, KY 40208. *Socles of Frobenius powers.*

Let  $(R, m)$  be a graded local ring in characteristic  $p > 0$  with maximal ideal  $m$ . In general, it is difficult to predict how the lengths and degrees of the socle of  $R/m^{[q]}$  behave asymptotically when  $q = p^e$  grows. We investigate some special cases where the behaviors of the socle of  $R/m^{[q]}$  are better understood. (Received January 19, 2011)