1120-13-125 **Tai Ha*** (tha@tulane.edu), Tulane University, Department of Mathematics, 6823 St. Charles Avenue, New Orleans, LA 70002, and **Pham An Vinh**. *Growth of multiplicities of graded families of ideals.*

Let (R, m) be a Noetherian local ring of dimension $d > 0$, and let $\{I_n\}_{n\in\mathbb{N}}$ be a graded family of m-primary ideals in R. We examine how far off from a polynomial can the length function $\ell_R(R/I_n)$ be. In particular, we provide an upper bound for the difference function $\ell_R(R/I_{n+1}) - \ell_R(R/I_n)$. (Received February 18, 2016)