1018-13-37 **C. Huneke**, **M. Katzman**, **R. Y. Sharp** and **Y. Yao***, Department of Mathematics, 530 Church Street, University of Michigan, Ann Arbor, MI 48109. *Frobenius test exponents for parameter ideals in generalized Cohen-Macaulay local rings.* Preliminary report.

Let $(R, \mathfrak{m}, k)$ be a Noetherian local ring of prime characteristic p with $\dim(R) = d$ such that $\ell(H^i_{\mathfrak{m}}(R)) < \infty$ for all $i < d$. (Such a ring is called a generalized Cohen-Macaulay ring.) We show that there exists a uniform power of p, say $Q = p^E$, such that, for any ideal I generated by part of system of parameters of R and any element, say x, in the Frobenius closure of I, the Q-th power of x is in the Q-th Frobenius power of I, i.e., $x^Q \in I^{[Q]}$. (Recall that, for any $q = p^e$, the q-th Frobenius power of an ideal J, denoted by $J^{[q]}$, is the ideal generated by the set $\{r^q \,|\, r \in J\}$. And an element y is said to be in the Frobenius closure of an ideal J if $x^q \in J^{[q]}$ for some $p = p^e$.) (Received February 10, 2006)