1009-13-117 **Ian M Aberbach*** (aberbach@math.missouri.edu), Department of Mathematics, University of Missouri, Columbia, MO 65211, and **Florian Enescu**. *Some comments on rings with small Hilbert-Kunz multiplicity.* Preliminary report.

Let (R, m, k) be an unmixed (equidimensional, no embedded primes) local ring of positive prime characteristic. The Hilbert-Kunz multiplicity of R, $e_{HK}(R)$, is a finer invariant than the multiplicity, $e(R)$. It is known that $e_{HK}(R) = 1$ if and only if R is regular. What is not yet well-understood is how close e_{HK} can be to 1 if R is not regular, or even F-rational. We explore some techniques (extending work of Hanes, and Watanabe-Yoshida) for obtaining such information. (Received August 10, 2005)