

1112-13-463

**Kevin Tucker\*** ([kftucker@uic.edu](mailto:kftucker@uic.edu)). *On the limit as  $p \rightarrow \infty$  of the Hilbert-Kunz Multiplicity.*

In many ways, for a fixed characteristic, the Hilbert-Kunz multiplicity is a rather complicated invariant of singularities. It can take on irrational values, though an explicit example is yet unknown. It is easy to estimate in practice, and very difficult to compute and interpret precisely. In some cases, for rings arising from a reduction to positive characteristic, it is known that the Hilbert-Kunz multiplicities approach a limit as  $p \rightarrow \infty$ . One can hope that these limits exist in general, that the limit may be simpler and easier to interpret than in a fixed characteristic. In this talk, I will review some of the known examples, and discuss some related limits and progress towards showing the existence of the limit Hilbert-Kunz multiplicity. (Received August 10, 2015)