1126-00-191   **Travis W. Morrison*** (`txm950@psu.edu`). *Diophantine definability of the non-squares in a global field.*

In joint work with Kirsten Eisenträger, we show that the ring of S-integers in a global function field with characteristic not 2 has a first-order universal definition. This follows work of J. Koenigsmann and J. Park who gave first-order universal definitions of $\mathbb{Z}$ in $\mathbb{Q}$ and the ring of integers in a number field, respectively. I will discuss how we use the ideas developed in these papers to prove that the non-squares of a global field K with $\mathrm{char}(K) \neq 2$ are diophantine over K, which was first shown by B. Poonen. (Received January 12, 2017)