

1116-11-1111

**Anastassia Etropolski\*** (aetropo@emory.edu), Dept. Of Math & CS, Emory University, 400 Dowman Dr., W401, Atlanta, GA 30322. *Class numbers of algebraic function fields, or Jacobians of curves over finite fields.*

In 1975, Leitzel, Madan, and Queen gave a classification of algebraic function fields with class number one. It was discovered recently that this classification was not complete, but with the addition of a genus 4 curve over  $\mathbf{F}_2$  the classification is now complete. Since the original paper, work has been done on a complete classification of function fields with class number 2 and 3. The class number 2 problem has been solved by le Brigand using a combination of algebraic and geometric techniques, while the class number 3 problem has been solved in the case of function fields over  $\mathbf{F}_q$  for  $q$  at least 3 as well as all quadratic function fields (i.e. Jacobians of hyperelliptic curves) by Picone using purely algebraic methods. I use a combination of these techniques to study the class number 3 case for higher genus curves over  $\mathbf{F}_2$  as well as consider what happens for higher class numbers. (Received September 17, 2015)