

1096-11-1572

Chad Awtrey, Brett Barkley, Nicole Miles* (nmiles@elon.edu), **Christopher Shill** and **Erin Strosnider**. *Classifying degree 12 2-adic fields with automorphism group of order 4.*

Let p be a prime number. The p -adic numbers were first introduced by K. Hensel toward the end of the 19th century. Since that time, they have become an important tool in many areas of number theory as well as mathematical physics. Recently, researchers have focused on classifying extensions of the p -adic numbers by computing invariant data that define each extension. Previous research has classified extensions through degree 11. In this talk, we discuss degree 12 extensions of the 2-adic numbers, focusing only on those extensions that have an automorphism group of order 4. We include a description of our method for computing the Galois groups of polynomials defining these extensions. (Received September 16, 2013)